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INDIVIDUAL WORK
AND
THE DALTON PLAN

BY

A. J. LYNCH

HEADMASTER OF WEST GREEN SCHOOL, TOTTENHAM

A FULL ACCOUNT OF
THE WORKING OF THE DALTON PLAN
IN THE ELEMENTARY SCHOOL

With an Introduction by

T. P. NUNN, M.A., D.Sc.

Professor of Education, University of London

LONDON

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PART OF FRIEZE IN HISTORY ROOM AT
WEST GREEN SCHOOL

The upper frieze outlines the period from Cave Man to the Vikings. The lower one is described on page 32.
The illustrations do not, of course, do justice to the exquisite colour-scheme of the originals.

FOREWORD

THE following pages make no claim to be a book on Education. They contain a description of an experiment in individual work conducted under the Dalton Plan at West Green School, Tottenham, N.15. Nor do they claim to be authoritative, and if, here and there, a pontifical note appears to be sounded, indulgence must be sought on the ground of the writer's inexperience. All that has been attempted is, in the first place, to meet the wishes of the large number from all parts of the world who have visited the school, and also those who have attended the writer's lectures in different parts of the country, by giving them some permanent record of the experiment; and, in the second place, to be of service to fellow-teachers who may be attracted towards the Plan, and desire to put it as a whole—or as much of it as their circumstances and conditions will allow—into practice. Chapters I. and II. are a meagre attempt to offer a background with which to compare the experiment.

Practical teachers are under no delusion as to what is the first condition of success in this, or any plan. Without the loyalty, devotion, and undaunted and untiring enthusiasm of the staff with whom he works, no head teacher would dare to embark

on such a venture as is here described. All these the writer has been accorded in full measure, and he would be wanting in his duty if he did not make frank acknowledgment of the fact. He desires also to express his obligation to the Local Education Authority—always a progressive educational body in Tottenham—whose Chairman and Vice-Chairman have personally watched and reported upon the experiment, for allowing him a free hand in the matter; and, not least, to the Director of Education (Mr. A. J. Linford, B.Sc.), for his generous encouragement and unfailing sympathy. In all these respects the school is particularly fortunate.

There are others also to whom acknowledgments are due—to Miss Helen Parkhurst, the originator of the Plan, whose love of children is deep and strong, who visited the school and remarked that it was organised most nearly like her own; to Miss Belle Rennie, Hon. Secretary of the Dalton Association, to whom progressive education in this country owes more than it knows, for her enthusiastic advice and assistance; to Mr. John Littlejohns, R.B.A., and his talented young pupil, Mr. E. G. Fraser, for valuable suggestions and help; to his wife, Mrs. J. D. Lynch, for her unwavering encouragement and support, without which much of the writer's own work would be impossible; to the small boy whose schooling led indirectly to the adoption of the Plan; and to those other friends who read through the manuscript and made suggestions. To all these acknowledgments are gladly made.

Of living authorities on Education, the writer has had no greater, or more inspiring guide than

Dr. Percy Nunn, M.A., D.Sc. His book "Education: Its Data and First Principles" (Arnold) has been read and re-read by the writer until it has become almost a gospel with him. If, therefore, he has quoted from the book without, at the time, making due acknowledgment, he desires, in advance, to crave indulgence and to express his deep sense of obligation to the doctor. It should be stated that, more than any other British Educationalist, Dr. Nunn saw the reasonableness of individual work—and the unreasonableness of some of the work of class methods—before Miss Parkhurst's book was published.[1]

Of Mr. George Sampson's "English for the English" (Cambs. Press), and Mr. Norman McMunn's "Child's Path to Freedom in the Schools" (Bell), the writer cannot speak too highly as sources of inspiration.

Among periodicals, the writer acknowledges the great assistance he has received, both in compiling this book and in his daily work, from *The Times Educational Supplement*, *The Teachers' World*, and *The New Era*. To the Editor of the last-named, special thanks are due for permission to reprint the article on "Arithmetic under the Dalton Plan."

Lastly, the writer cannot refrain from referring to the new edition of the "Suggestions" of the Board of Education. No wise teacher will ignore these—they breathe the new spirit in education in every line of them. If the reader will turn to p. 7 of these "Suggestions" he will find the basis of the experiment here described.

[1] See Introduction to "Education and the Dalton Plan." Helen Parkhurst (Bell).

Since this book was set up in type, and after nearly two years' working of the Plan, Mr. L. C. Johnson, of Borough Road Training College, who is undertaking specialised work in Mental and Intelligence Tests, wished to give group tests in Arithmetic and English to boys working under the Dalton Plan, in order that he might compare the results with those he had obtained elsewhere. The tests were taken from Dr. P. B. Ballard's "The New Examiner." The test in Arithmetic was one in mechanical accuracy. It should be stated that owing to the simplified course adopted in the school, there were three small blocks of questions in the test that were unfamiliar to most boys. In English two tests were given,—one in "construction" and the other in "comprehension."

The number of boys examined was 32, and their average age 13 years 2 months. The total marks were 100 in each test. The results, briefly put, were:—

I. Arithmetic	Dr. Ballard's "Norm"	49
	Class average . .	45
II. English (*a*) Construction .	Dr. Ballard's "Norm"	49
	Class average . . .	62
	(giving mental age of 15 years 4 months)	
(*b*) Comprehension	Dr. Ballard's "Norm"	33
	Class average . . .	49
	(giving mental age of 15 years 8 months)	

These results should be read in conjunction with the subject-matter on pages 76 and 77, and also with Sections I and II of Chapter IX.

CONTENTS

INTRODUCTION

THAT there is nothing new under the sun is at least as true in education as elsewhere. The method of organisation and teaching described by Miss Helen Parkhurst as "The Dalton Plan" is no exception to a painfully universal rule; I have, in fact, heard a Scotchman declare that it was the ordinary procedure in the old-fashioned parish schools of his country, and an Englishman claim it as the characteristic method of one of our most ancient and famous foundations. It would, however, profit little to discuss the precise amount of novelty in Miss Parkhurst's proposals; what is of much more importance is the question whether they meet any widespread need of the present time.

To that question a considerable number of experienced persons who have made trial of them are disposed, with varying degrees of confidence, to give an affirmative answer. They are mainly headmasters and headmistresses who have long felt that the intellectual life of boys and girls at school has become over-organised in details, and that modern arrangements leave far too little room for freedom and variety of individual effort. The sum of their views is, in the language of a famous political resolution, that corporate, oral instruction is an educational instrument whose predominance has increased, is increasing, and ought to be diminished. The devices worked out by Miss Parkhurst with courageous common-sense in the Dalton High School and the Children's University School of New York indicate a way of bringing class-teaching into closer agreement with the natural movements of young minds without loss of the elements of stimulus and guidance to which the older practice rightly attributed so much

weight. To the Dalton Plan, therefore, many teachers in this country who hold the opinion I have described but wish to move cautiously from well-tried ways, have turned for inspiration. They have naturally found it desirable to modify the Plan in details to suit English traditions and the special problems of their schools, and it need hardly be said that none of them think that they have reached a finally satisfactory adjustment of the new means to the old ends. The essential point is that all are convinced by their experience that the most promising developments of educational practice lie somewhere in the direction in which Miss Parkhurst has led.

For historical reasons our elementary schools need, even more than our secondary schools, the revivifying influence of the ideas which underlie the Dalton Plan. The publication of this book, in which an elementary school headmaster describes, with abundance of helpful practical detail, his experience of the Plan, is, therefore, an event to be warmly welcomed. The book itself is the best possible certificate of Mr. Lynch's authority, and no reader will demand another. Nevertheless, as one who knows at first hand the author's admirable work at West Green, I accept most gladly the honour of commending what he has written to the attention of his and my colleagues in all branches of our profession. His record of an interesting and successful experiment cannot fail to be of great value, both as a guide and as a source of inspiration, to all who have at heart the cause of educational reform.

T. P. NUNN.

UNIVERSITY OF LONDON.
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CHAPTER I

THE OLD SYSTEM

IT is an interesting fact that the progress of elementary education in England has always been most marked at a period of religious controversy.

The Education Act of 1902 was the response to a demand for higher education, but what actually took place during the time of its passage into law, was that the flood-gates of religious controversy were forced open, with the result that Minister after Minister was almost baffled in his attempts to deal with the problem of education, and to stem the torrent of religious argument. The 1902 Act, which, among other things, placed the voluntary schools upon the rates on almost the same terms as the old Board Schools, was the outcome of that discussion. The public was always much more interested in the discussion of religious teaching than it was in the demand for higher education. And whenever education has been under public discussion—especially the education provided by the elementary schools—it has always been the case that the discussion has been on religious teaching rather than on education pure and simple. The reason for this is, after all, not far to seek.

Before 1870, the vast majority of the children

attending school in this country were in schools controlled (and almost entirely supported) by religious denominations, chiefly the Church of England. How the funds to support these schools were raised need not detain the reader. It is sufficient to say here that the schools were largely dependent on subscriptions and donations, or on the uncertain results of public collections. In later years these were supplemented from such doubtful sources as bazaars, whist-drives, and rummage sales.

The Act of 1870, which introduced a new type of school, is one of the most important and far-reaching enactments that ever found its way to the Statute-book of the British Parliament. It ordered that "there shall be provided for every school district a sufficient amount of accommodation in public elementary schools for all the children resident in such district for whose elementary education efficient and suitable provision is not otherwise made."

In addition, the Act, which, under certain circumstances, made education free (it was not made entirely free till thirty years later)—made also proper provision to meet the expense, and provided for the administration of the new system by giving power to specially elected school boards to carry out the work. Among the duties of the school boards was that of compelling all parents, under severe penalties, to give their children, between the ages of five and thirteen, the advantages of education.

One of the reasons for taking this course is to be found in the returns of the Registrar-General for the year 1870. He reported that in that very year

the average number for all counties of males who placed a mark on the marriage registers was 17 per cent. and the number of females 20 per cent. In one county the numbers were 30 and 37 respectively.[1] There were other equally cogent reasons.

As the powers conferred under the Act were put into operation the number of Board Schools grew—gradually at first, but rapidly later. In 1872 the number of such schools was 82; in 1873, 520; in 1876, 1790. By 1914 the number had risen to 8510.[2] They had now become known as Council Schools, and accommodated four and a quarter millions out of the total elementary school population of nearly seven millions. This expansion of the Council School system went on at the same time that the denominational schools were holding on to their self-imposed task, accompanied by, at times, the sudden outbursts of religious discussion to which reference has already been made.

The Board Schools of that day drew their financial sustenance partly from local rates and partly from grants-in-aid from the Treasury as all public elementary schools, including the denominational, do at the present time. The Board of Education ("My Lords" of the earlier days) acted through inspectors.

These matters are referred to in order to point out what was the system by which the Board awarded assistance to the localities in which the schools were erected. Fifty years ago, and for many years after, there was in full operation the system known to all veterans of the teaching profession as

[1] "Encyclopædia Britannica" 9th edition), vol. viii. p. 250.
[2] Workers' Educational Association Handbook, 1918.

" payment by results "—a most pernicious system which was only abandoned after the passing of the 1902 Act.

The method of carrying out the system and assessing grants, was by means of an annual examination in the three R's, and grants were awarded on the results of that examination. The rate of grant was 1*d.* per unit per cent.[1] In addition, there were other grants that might be " earned." For example, there was a " Merit " grant which was paid on the *grade* of merit. For the assessment " Fair," 1*s.* per head was paid; for " Good," 2*s.*, and for " Excellent " 3*s.* There was a further grant for Discipline of 1*s.* or 1*s.* 6*d.* (" eighteen penn'orth of sitting still "). It is little wonder the schools were, and sometimes are still, referred to as " sitstilleries." The amount of these grants could be augmented by other grants. There were special grants for Drawing, Singing, and Drill, and for subjects like Algebra, known in those days as " Specifics."

The teacher's aim was to do the best he could financially for those who employed him. He endeavoured by every means open to him to secure 100 per cent. of passes and so justify his position. In some few instances this was actually accomplished. All sorts of tricks and dodges were resorted to to get the children through so that the maximum of grant could be claimed. Ingenious devices were not unknown which by no stretch of imagination could be described as educational. The annual examination became invested with a sort of sacredness upon which, one would have thought, the fortunes of the

[1] See *Schoolmaster*, Dec. 15, 1922.

whole world rested. Everything short of the actual work that the child must do was done for him. The writer well remembers those days. For an entire night, if need be, the whole staff, heedless of meals, would engage in compiling "schedules," and in writing carefully, in the best handwriting it could command, the headings of the various papers that would be used by the children, who were trusted to do nothing that could possibly be done for them. Nor was this all. This system of "buttressing" was carried into the class rooms and found its expression in those ingenious devices already hinted at. For example, a class was to have its examination in writing in the form of a piece of dictation. When a new set of "Readers" was delivered to the school, one or two copies were reserved for the inspector's use if and when he should arrive. One of these copies was always ceremoniously handed to him that he might select his passage for dictation therefrom. Without arousing undue suspicion, that book would always open at the same place. It had been made to do that by the simple process of bending the book back. Before the great day arrived all the boys had been well primed in the spellings of the two or three pages before, and the two or three after that opening, for it was a thousand to one His Majesty's Inspector would hardly be content with the book where it opened, but would turn over a leaf or two leaves either way. If this happened—and it usually worked out as described—all was well.

A teacher was generally asked to dictate the passage. A teacher well-known to the writer used to have an understanding with his class, that

if he held up one finger " their " was the word to write, and if two, " there " must be written.

One other example will suffice to show the sort of device resorted to. This time it is Drawing. Special inspectors had this subject in charge, and they were retired army officers. The examination usually consisted in reproducing a copy in freehand from a blackboard. The assessment, generally made on the spot, was " Fair," " Good," and so on according to the result. One of the criteria of good drawings was that they should all be as nearly as possible the same size throughout the class. This uniformity was obtained by simple means. The paper on which the drawing was to be done had a heading carefully printed and underscored with a line exactly two inches from the top of the paper. This the boys were carefully told would be the case, days and even months beforehand. Teachers were allowed to give advice but not active help. To get the drawing started one had to have a centre line. This the boys were advised to make " about " eight inches long. Without exciting suspicion every boy would take his pencil and measure from the printed line to the top of his paper, thus getting the two inches. The rest was easy. The result from the point of view of uniformity was always excellent.

How far practices such as these were general, the writer is not in a position to say. They were scarcely educational, to say the least ; looking back to them creates a smile. Most of them answered for a time, and then others took their place. They were methods of which no one could feel proud.

It has also to be remembered that these were the days of the cane and the tawse, of large classes, and

of attempted rigid discipline. The writer soon after leaving college was put in charge of 110 children in Standard 2, and every one of them had to pick up his pen, or move from his desk, to numbers or to signals; these were necessary accompaniments of the system. They were the days when pupil-teachers also, who should themselves have been learning, were put in charge of large classes. The miracle of all this is that the products of the schools were so good as they were; and in spite of all the shifts to which teachers were put under such a pernicious system, one can but admire the patience, the fortitude, and the untiring devotion of the men and women who bore the heat and the burden of these early school days.

It has been well said, that one of the results of the system, though it was never intended, was that children learned to loaf.[1] The whole system demanded that children should sit still—often for a long time. Gradually out of this state of things arose what Miss M. L. V. Hughes, the distinguished author of "Citizens to Be," calls a code of school ethics which is radically (not only superficially) different from the Christian code. This code is worth reproducing here because it succinctly summarises the whole system. This is how Miss Hughes sees it:

School Code	Christian Code
1. Obey.	1. Be interested.
2. Imitate.	2. Be yourself.
3. Don't move without orders.	3. Be free: explore.

[1] See "The Ideal Number of Pupils in a Class," by M. L. V. Hughes. W. E. A. Handbook, 1918.

School Code	Christian Code
4. Don't speak without orders.	4. Discuss.
5. Don't laugh without orders.	5. Delight in your work.
6. Try to be top.	6. Try to do it excellently.
7. Try to beat the others.	7. Try to help the whole class.
8. Don't help your neighbour.	8. Help the weaker especially.
9. Don't get help from him.	9. Get help from the stronger.
10. Don't break any school rule.	10. Do as much for the school as you possibly can.

Miss Hughes adds the following sanctions :

Else you will be punished. If you work hard and keep the rules you will get your marks now and good wages afterwards.	Then you will be a fit scholar of Christ, ready for the harder lessons, ready to offer God and your country " no maimed or worthless sacrifice."

Much of the school code was the direct outcome of the " sit-stillery " aspect of the system. From another aspect—that of imparting information—the failure was equally great. There was an old rhyme that expressed it thus :

Ram it in, ram it in,
Children's heads are hollow ;
Ram it in, ram it in,
Still there's more to follow.

Comment is needless. The prospect of change came about when it was realised that the business of the school was not merely to ram in information, but to prepare for citizenship and for life.

One of the later consequences of the old system on the administrative side, was the appointment of local inspectors upon whom was placed the duty of seeing that the schools in their charge were effectively prepared for the annual ordeal. Accordingly, about a month beforehand the local inspector tried his hand at appraising results. There was thus a double burden on many of the schools—a burden which, though it is now greatly modified in its incidence, is still carried by many schools.

The steps by which reform came were slow but sure. The first was that by which, at the annual examination, "exceptions" (for various reasons, chiefly mental deficiency) were allowed. These, however, were always closely scrutinised. The next was when inspectors were allowed to excuse individual examination in any school, and recommend a grant on a block system. But, as the inspector's notice of his intention not to examine might not arrive until a fortnight before the examination was due, it did not remove the abuses of the old system. These abuses did not begin to disappear until the whole system of individual examinations was abolished for all schools—a step that was soon taken. The teacher thus became freed from the intolerable position of being merely a grant-earning machine. His eye need no longer be fixed on grant as the sole aim of his work, but on the well-being of the child. He was free—free to take up his real work relieved of all the sordid elements that so long had clung about him. Many teachers took up their new responsibilities and rose to the new opportunities. Children, as a consequence, came to share to some extent the changed conditions and the new freedom.

But tradition lingers long—education in many quarters still suffers from the " dead hand." It is one of the purposes of the later movements in education, especially that known as individual work, to get teachers to take full advantage of their freedom, if only as a means of preparation for that next great step in education—the freeing of the child.

It may not be out of place here to refer to what educationalists believed was the greatest advance of all, namely, the Act of 1918, now, alas! administratively suspended to such a degree as to be little more than the mere expression of a great ideal. So largely has it become inoperative that some of the abuses of the old system, for example, large classes, are again prevalent. Only an enlightened public opinion, which still has to be created, will prevent a relapse into the spirit of the old bad system, or guard us against the recrudescence of its practical abuses.

It may be as well to bring to the notice of the reader what is now understood to be the purpose of an elementary school. The following is the " Introduction " to the Code. It is quoted in full.

Introduction

" The purpose of the Public Elementary School is to form and strengthen the character and to develop the intelligence of the children entrusted to it, and to make the best use of the school years available, in assisting both girls and boys, according to their different needs, to fit themselves, practically as well as intellectually, for the work of life.

" With this purpose in view it will be the aim of the School to train the children carefully in habits of observation and clear reasoning, so that they may gain an

intelligent acquaintance with some of the facts and laws of nature; to arouse in them a living interest in the ideals and achievements of mankind, and to bring them to some familiarity with the literature and history of their own country; to give them some power over language as an instrument of thought and expression, and, while making them conscious of the limitations of their knowledge, to develop in them such a taste for good reading and thoughtful study as will enable them to increase that knowledge in after years by their own efforts.

"The School must at the same time encourage to the utmost the children's natural activities of hand and eye by suitable forms of practical work and manual instruction; and afford them every opportunity for the healthy development of their bodies, not only by training them in appropriate physical exercises and encouraging them in organised games, but also by instructing them in the working of some of the simpler laws of health.

"It will be an important though subsidiary object of the School to discover individual children who show promise of exceptional capacity, and to develop their special gifts (so far as this can be done without sacrificing the interests of the majority of the children), so that they may be qualified to pass at the proper age into Secondary Schools, and be able to derive the maximum of benefit from the education there offered them.

"And, though their opportunities are but brief, the teachers can yet do much to lay the foundations of conduct. They can endeavour, by example and influence, aided by the sense of discipline which should pervade the School, to implant in the children habits of industry, self-control, and courageous perseverance in the face of difficulties; they can teach them to reverence what is noble, to be ready for self-sacrifice, and to strive their utmost after purity and truth; they can foster a strong sense of duty, and instil in them that consideration and respect for others which must be the foundation of

unselfishness and the true basis of all good manners; while the corporate life of the School, especially in the playground, should develop that instinct for fair play and for loyalty to one another which is the germ of a wider sense of honour in later life.

"In all these endeavours the School should enlist, as far as possible, the interest and co-operation of the parents and the home in a united effort to enable the children not merely to reach their full development as individuals, but also to become upright and useful members of the community in which they live, and worthy sons and daughters of the country to which they belong."

CHAPTER II

INDIVIDUAL WORK

As was pointed out at the end of the last chapter, the purpose of an elementary school is "to assist girls and boys . . . to fit themselves practically as well as intellectually for the work of life." That, translated into other terms, means that the business of education is to produce good citizenship. Slowly this tendency is making headway in the work of the schools, but the conception of the teacher's work which it implies has not yet been fully realised even by teachers themselves.

In the past, too great emphasis has been placed—important though they are—on the three R's. That was inherent in the system to which reference was made in the last chapter. Even now hostages are given to "big business," where the idea of education appears to be that just sufficient knowledge to enable the child to earn a living is all that is required.

The "mass" methods of the past and the consequent tendency to repression, accompanied by adult domination and dictation, were the instruments by which, unconsciously perhaps, this result has been brought about.

What is now required is reform in the direction of relaxing unnecessary pressure, removing unnecessary restriction, and giving the child an

opportunity to develop; that the child, in short, should be freed. Mr. Edmond Holmes, whose book "What Is and What Might Be"[1] is a strong plea for the freedom of the child, suggests that, "if we will make the experiment of giving freedom to the child and persevere in it in spite of inevitable mistakes and failures, results will follow in due season which will surprise us. Relieved from the deadly pressure which was paralysing his natural activities and therefore either arresting or distorting his expansive tendencies, free at last to obey the laws of his own being, rather than the arbitrary commands of his teacher, the child will begin to make healthy and harmonious growth, and his consequent sense of well-being will be realised by him as joy. Children need to be released from the deadening pressure of autocratic authority, rigid discipline, and mechanical instruction. They have been too long regarded as little savages, stupid, ignorant, and unable to do anything for themselves. Has not the time arrived when the education of our elementary schools should be regarded not as machinery but as a living thing?"[2]

A moderate acquaintance with the men and women of to-day reveals the fact that few of them have opinions of their own until they consult their favourite paper—they are content to have their thinking done for them.[3] How far is this due to the lack of initiative and independent thought which seems to characterise much of the teaching

[1] "What Is and What Might Be," by Edmond Holmes (Constable).

[2] See W. E. A. Handbook, 1918, p. 156 and ff.

[3] See *The Nation*, Jan. 6, 1923.

of present-day schools? How far, in other words, is it due to the old methods of "mass" teaching? Have not the pupils, in the past, regarded the teachers, and not themselves, as responsible for their education? Is there any valid reason why the pupils in the schools of the future should not be encouraged to work "on their own," silently consulting books, and making experiments? Their progress may be slow, but it will be real and solid, and, what is most important, it will be the result of their own doing, experience, and learning. They will develop initiative, versatility, and become responsible in a great measure for their own progress.[1] Under the old system, not until long after a child left school—a process that constitutes with elementary school children a tremendous break—does he begin to do his thinking for himself. It has been said with some truth that the schools of the world have become feudalised and Prussianised.[2] The way to moral health, as it is the way to educational efficiency, is by expression, not repression. The old system stands condemned not because it is old but because it has failed. For fifty years this system has operated, and the results as seen not only in the schools themselves, but in the attitude towards education of the two generations who have passed through the schools, are painfully eloquent testimony to that failure. Educational stock in England never stood lower than it does at the present moment (1923). On the other hand, it must be recognised that during a period of fifty

[1] Dr. T. P. Nunn.

[2] See *Times Educational Supplement* ("The Teaching of Virtue"), Oct. 21, 1922.

years there has been ebb and flow, and, on the whole, it is probably true, the tide has risen greatly. What one looks for is a higher tide mark still. That higher tide mark will be realised when it is felt, as it is already being felt, that the old methods are mainly wrong because the relation of the teacher to the child is not right.

Ever since the Industrial Revolution, and particularly towards the end of the nineteenth century this country drifted towards "mass" methods and "mass" production. This occurred chiefly in industry, but the principle was reflected, as has been already pointed out, in the schools, where classes of 100 were not uncommon, and where, even to-day, classes of 50 and 60 are the rule.

Nor are these masses of children always looked at from the same angle. There are those who view them as congregations to be talked to (the ecclesiastical view), and the very arrangement of the schoolrooms supports this view. The children are accommodated in desks (the pews), the teacher is at or near his table (the pulpit), and nothing is more natural than that he should dispense the word, which consists generally of pre-digested food which the children are asked to swallow. Little attempt is made to allow children to exercise their own wits. The flow of the teacher's eloquence goes on uninterrupted, and any breaking-in on that eloquence is often waived aside as unnecessary and inconvenient.

Others there are who view them as raw recruits to be regimented (the military view). This is what is meant by Prussianisation. Sitting on rigid desks, marching to and fro to commands shouted in approved military fashion—such methods are relics

of the camp and barracks, and usually indicate that children are screwed down to a system. Regimentation strangles true education.

There are those, too, closely allied with the type just indicated, who, unconsciously it may be, hold the view that the mass are submissive and quiet units (the view of essential slavery). This is the doctrine which demands that children shall do what they are told—that they shall be seen and not heard. It is repression of the worst kind.

Lastly, there is the view of Mr. Bernard Shaw,[1] who sees children as performing animals—a legacy of those old days of examinations when pupils were put up to all sorts of tricks and dodges in order to secure grants, and made to do these tricks by means which, fortunately, nowadays are finding little favour in the schools.

Whichever view held the field for the moment—sometimes in the course of a day's work first one view and then another preponderated—it has long been felt by those interested in the education of children that neither is educational. They are all fundamentally wrong because the relation between the teacher and the child is a wrong relation. Yet all these views have been held unconsciously by numbers of teachers, and are still consciously held by some. It is not the teacher's business to be merely an ecclesiastic, a drill-sergeant, a driver, or even a trainer. It is his business to be a helper and an educator.

This does not, of course, mean that there is no place in education for mass teaching. On the

[1] See Mr. Bernard Shaw's Preface to W. E. A. Handbook, 1918.

contrary, mass methods may be best for some subjects where inspirational results are required. History and Literature are cases in point. Whilst much of the work in these subjects may be individual, there is real need to treat them occasionally from the standpoint of inspiration. But if mass methods are essential the larger the mass the better. What one experiences in these larger masses is what our forbears felt when they talked of "the assemblies of the saints."

In this connection, it may be pointed out, that the Celebrations proposed by Dr. F. H. Hayward [1] are designed to meet this case. The personality of the teacher, his enthusiasm for his subject, and his skill in presenting it do most assuredly count for something. But having done his part, what is to become of the emotion stirred during these lessons? Surely the purpose of all such inspirational lessons is to send the hearers to pursue the work themselves, so that the stirred emotion may be rightly used, and not allowed to be wasted. Could this be the happy result of inspirational lessons, then mass methods would have a direct and abiding place in the teacher's work. But it is equally true that, in any good and well-arranged scheme of work, it would occupy only some proportion and not the whole, of a teacher's time. In the past the mass lesson has been glorified out of all proportion to its value. "Inspiration" has not always consciously been the aim, for all subjects were treated in the same way. The system in some elementary schools of "giving lessons"

[1] See "The Spiritual Foundations of Reconstruction" and the "First and Second Books of Celebrations," by Dr. F. H. Hayward and Arnold Freeman, M.A (P. S. King).

continually does not train children to be students, that is, to seek knowledge for themselves.

The supporters of change in this matter have no desire to sacrifice the substance for the shadow; what they do desire is so to change the form and presentation of knowledge as to create closer attention by appealing to the child on the side of his interest.

In an article by Mr. Charles H. Barker on the Elementary School (an indictment) which appeared in *The Adelphi* for August, 1923, occurs the following passage. It is timely, and puts the issue plainly. "It is said that the Public School, despite its faults, does at any rate afford excellent opportunities to the brilliant boy, giving him leisure to follow his inclinations. In the Elementary School, it is the brilliant child who suffers most: he has to keep in step, he must always subordinate his inclinations; the hare and the tortoise must run together in harness. The ignoring of personal tastes is, indeed, the most tragic result of herd teaching. We scold Tom because his Arithmetic is inferior to Dick's, and Dick because his Composition is not equal to Tom's. We expect children to tackle the multiplication table with the same spontaneity and relish with which they read 'John Gilpin,' or 'Tiger, tiger burning bright'; to swallow cheerfully and uncritically anything we administer. 'Here's richness,' cried Mr. Squeers, smacking his lips as he tasted the milk 'drownded' with water which he had provided for his unhappy pupils. We haven't even Mr. Squeers's satisfaction of seeing a hungry gleam in the eyes of our children; we expect an every course gusto. Our ideal pupil is he who plods passively and perseveringly through

every lesson, who never sighs with relief or disappointment when he is switched from one subject to another. The dull child, the brilliant child, the peculiar child, are all thorns in our side, even the abnormally small or the abnormally tall child presents practical difficulties—any child who cannot be standardised we regard as a misfit. Miss Blimber's report on Paul Dombey expresses our feelings admirably. 'It is naturally painful to us,' she said, 'that you are singular in your character and conduct, for we can't like you, you know, Dombey, as well as we could wish.'"

Mr. Barker continues: "I am not advocating a 'go-as-you-please' system, nor do I see how it is possible to abolish all coercive measures in school; it is, however, a truism that in education nothing is more important than the formation of real tastes. You can't form real tastes when you are ever trying to please somebody else. The teacher himself is eternally worried lest he should not be teaching 'on right lines,'—'right lines,' of course, meaning, somebody else's 'lines.' He daren't please himself; he tries to please others, and so pleases nobody. He strives pitifully to alter his shabby coat according to the latest thing in educational fashion. Too enervated to be braced by criticism, he longs to bask in the approving smiles of his masters. Nothing is easier than to sneer at the teacher's subservience; but it is only fair to remember the tragic story of the schools. About half of the present teachers grew up under the 'Payment by Results' régime." [1]

[1] See *The Adelphi*, edited by John Middleton Murray, August, 1923.

The whole training of teachers has for years placed the emphasis on one side of the work only. The ability of students to teach is frequently judged only by their skill in providing illustrations, diagrams, and the like. But these very students are faced later with the fact that, though on occasion it is eminently desirable to hold the interest of the children, the greater part of the work has to be learnt, not taught, and this work can only be done by children themselves. The tendency of the old method is to give the teacher an exaggerated sense of what he can do with children—he feels himself above them and then tries to get down to their level. The result of this sort of thing is too frequently a poverty-stricken lesson, and a complete failure to make any impression at all.

Ordinary children like something "to do."[1] Younger children especially cannot concentrate on the spoken word for any length of time, and, if this kind of thing is pursued for long, it results only in day-dreaming. The fact that children "sit-up," fold their arms, and appear interested is no guarantee that they are following a lesson. The experienced teacher could easily ascertain by a judicious question or two, that those who are apparently listening are miles away from the subject under discussion.[2] The innocent, immobile face and strict posture—the result, it may be, of years of drill—are no index that the pupil is following the lesson. Any teacher used to classroom work knows this. Preachers realise this too. It is rare that any minister ventures

[1] *The Nation*, Jan, 6, 1923.

[2] See Discussion on "Failure of Elementary Education," *Times Educational Supplement*, Dec. 16, 1922.

to give an address to children for more than ten minutes at a time, neither does he venture a sermon—it is always a sermonette, or a story. Yet in their adherence to mass methods teachers frequently talk for 30 and even 40 minutes at a time to classes of 50 or 60, all of whom are compelled to sit and listen. Sometimes the lesson is repeated. The state of boredom and exhaustion which this creates is painful. The writer is well aware that there are teachers who can make the driest bones live, but in the main, to use Dr. Nunn's words, the instruction often becomes narrow, unimaginative, and over-formalised. What must be realised in elementary schools is that lecturing to pupils of preadolescent age is almost valueless. After all it is not what we force on the child that counts, not our finished logical thought or system, but our way of helping him to help himself. Readers of the recently published tribute to Sanderson of Oundle [1] will realise that he never imposed his way on boys but always strove to follow their way.

Children, moreover, should be brought to see that education is an interesting and possible thing even to them. It has been said that "the monastic traditions of Oxford and Cambridge, and the Puritan tradition of England have combined to produce the dogma that unless education is a hardship, a discipline, and a mental gymnastic there is something wrong with it. It is not surprising that we are a badly educated people.[2] It is a fallacy to suppose because a child is pleased and interested that therefore it is not learning." Or, it may be added, to

[1] "Sanderson of Oundle" (Chatto and Windus).
[2] See *The Nation*, June 6, 1923.

suppose that if he is thoroughly enjoying himself he is not improving his mind. It is as fallacious as to suppose that because he is sitting still he is listening. It is coming to be believed that education is no longer something to be pursued in sackcloth and ashes, but a thing of pleasure which may be used to transform all work into joy.[1]

To the organiser bent on a certain kind of efficiency and addicted much to a certain kind of system, co-ordination and subordination, a perfectly organised and well-drilled army is an imposing sight. To the teacher who is concerned with the body, mind, and soul of young humanity, an army may be an imposing spectacle, but its purpose and ways are the very opposite to his.[2] Children, like adults, grow restless under too much organisation. The teacher has often been reproached for having a narrow outlook, and with constructing a little world of his own which is different from the real one, and, in this matter of mass teaching and its consequences, there may be some substance in the reproach. What is happening to-day is that children are more and more receiving nurture, and an opportunity for activity. In the past, the teacher supplied the intellectual food but gave little opportunity for exercise; now there is a strong tendency not only to supply the food but to give the appropriate opportunities to digest that food. The teacher will still be needed—his importance, in fact, will be enhanced—but he will be less prominent. His work will not be less difficult, but it will be more

[1] Dr. T. P. Nunn.

[2] Prof. J. Smithells (Pro-Vice Chancellor Leeds University) at Normanton Grammar School, Nov., 1922.

individual and less on the class pattern. Personality will count for more than it ever did. There will always be some truth in the old notion that a teacher must teach.

" It might seem at first," in the words, slightly modified of Mr. Badley of Bedales School, who speaks from actual experience of the Dalton Plan,[1] " that by this method—more being left to the learner—less effort was required on the part of the teacher. This, however, is far from being the case. Instead of preparing a lesson and giving it to a whole class at once, the teacher, under this method, has to be ready to give the needed help first to one, then to another, according to the stage that each has reached, and the peculiar difficulty with which each is struggling. But if this makes greater demands on a teacher's time, and needs even greater mental adaptability and sympathy, it brings the satisfaction of knowing that the effort is not, as with much of class teaching, failing to reach the individual but that each is getting what he really needs. And there is also the further gain for a teacher, that, instead of having constantly to demand work from an unwilling pupil, he is now satisfying a genuine demand on the pupil's part. It is the pupil who now brings his work to the teacher with requests for the help that he needs, and with an eager desire to get on. Thus it makes learning a voluntary effort in which the teacher co-operates, but in which the pupil takes the more active part is the claim put forward for individual work."

[1] See pamphlet ' An Educational Experiment at Bedales School," by J. H. Badley, M.A. (Dalton Association).

The enormous interest evinced in " individual work " by teachers and others interested in education in this and other lands is sure evidence that they are not altogether satisfied with the old method. They see its weakness. It is not altogether strange either that in their search for remedies they should go back to first principles. After all, the method of mass teaching is not so very old, and, as was shown, gained support from the ideas of mass production that came with the development of the Industrial Revolution. Neither is the principle of individual work very new—it is indeed very old. It comes from those early days when disciples (the old translation is " learning-knights ") sat at the feet of their master, and in various forms it has persisted. Even in these days, it is the method by which the adult student works—it is the method adopted by the well-to-do in the education of their own children—and is the principle followed unconsciously (though compulsorily)—because of the difficulties of size of staff, and grading of children—in every small school in the land. The principle will find favour wherever the teacher who applies it has faith in the latent powers of the child and inspires the child to believe in those powers. It will become the teacher's business to know when to interfere, and when not to interfere; when, in short, to let the child act on his own initiative. And there is no need to fear that children will not work by themselves. Sometimes they set themselves tasks that no teacher would dare to set them, and the results are often of such a character that teachers and pupils alike may feel justly proud. When the habit of study has taken hold of a child he often of his own

accord does as much independent work—and even home-work—as is good for him.[1]

When and how the principle of individual work should be fully applied must be left to teachers themselves. The pages following are an attempt to describe in detail how and when the principle has been successfully applied in one school. But full allowance must be made for the facts that children do not all work at the same rate of speed, and that they are not all interested in the same subject at the same time. Children learn in different ways, and differences in ability and intelligence must also be allowed for. Stated broadly, it must be recognised that the school is made for the child, and not the child for the school.

There are of course many ways of applying the principle. The least effective is that of using it merely as a device to keep the child quiet. Setting a child to write an essay, or giving him four sums to work in order to fill out time, is not what is understood by individual work. It is something very much bigger than this. It aims at the creation of the habit of study and of independent expression which eventually reveal the child's will and individuality. These may be gained, not by the mere imposition of work by the teacher, but by a child saying what he will do, or by the suggestion of the teacher, through assignments of work, as to what he believes is the best course to pursue.

Individual work seems now to have become, in some form or other, a recognised part of the method of conducting any school. The main

[1] See also "Education: Its Data and First Principles," by Dr. T. P. Nunn (Arnold).

discussion centres in the question how far the principle should be allowed to operate. That is to say, what proportion of time should be devoted to class teaching, and what proportion to individual work; at what age it should start; and what organisation is best adapted to give the principle its greatest play. Obviously these questions cannot be answered alike for all schools. It is perhaps permissible to say that no school is efficient where none but class lessons are given, any more than any school is efficient where reaction is so violent that class lessons are abolished altogether. What is essential is to get the right relation between teaching and learning, between teacher and taught. It is easy to condemn the old methods, and, sometimes, enthusiasm for the new methods tempts one to do this too hastily. This is a profound mistake. It is no reason, however, for ignoring fresh experiments merely on the ground that they are new.

In the next chapter will be found a history of that application of the individual principle known as the Dalton Plan, and an account from actual experience of the conditions required to work the plan successfully. The reader will discriminate between those factors that are essential in operating the principle of individual work (*e.g.* assignments and checks), and those (*e.g.* subject-rooms and specialists) which, if added will, it is claimed, give additional educational efficiency and a new organisation on social lines.

CHAPTER III

THE DALTON PLAN

THE Dalton Laboratory Plan is a piece of machinery devised by Miss Helen Parkhurst, of New York, for putting into operation the principle of individual work with the large numbers of pupils who form the classes of elementary and secondary schools. It is less a " method " of teaching than a means of re-organising a school, or part of it, for more efficient work, and is thus distinguishable from the doctrines of Dr. Montessori. Only in so far as it represents a change in presenting particular subjects can it be described as a method at all. In Miss Parkhurst's words, " it is a simple and economic re-organisation of the schools whereby pupils and teachers function to better advantage. Inefficiency in either is reduced to a minimum. It does not add to or change the curriculum. It does not depend on elaborate equipment or expensive school plant. It precludes the idea that there is any one method of teaching subjects. It provides equal opportunities of advancement to bright and slow pupils alike without the sacrifice of thoroughness."

Miss Parkhurst worked out her plan in 1912–13 for children between the ages of eight and twelve, that is, for the next stage at that time after Montessori. She had had it in mind earlier than 1912. She worked at it from 1913 to 1915 and even experimented

with it, but for various reasons—one of them, the war—the plan was in abeyance from 1915 to 1918. From 1918 onwards various experiments were made, but it was not until 1920 that the plan was fully operated in the Dalton (Massachusetts) High School. Later, the Children's University School, of which Miss Parkhurst is herself the director, was founded for the purpose of exhibiting the plan at work and allowing it to develop. It is worth noting, that though Miss Parkhurst's influence can never be entirely separated from the plan, she did not allow it to be called by her name. Herein she displayed her wisdom, for she realised from the first that to make the plan rigid would be to make it forbidding, and that to stereotype it would be to deny its capability of elasticity and development. She desired the plan to be a growing thing; and desired its growth to be contributed to by other experimenters besides herself.

The three fundamental principles on which the plan is based are summarised by Miss Parkhurst herself.[1] The first is freedom, the second (quoted from Dr. John Dewey) is thus expressed: the object of a democratic education is not merely to make an individual an intelligent participator in the life of his immediate group, but to bring the various groups into such constant interaction that no individual, no economic group could presume to live independently of others. The third principle may be stated generally as "the psychology of a point of view." In stating this last principle Miss Parkhurst says, that a child never voluntarily undertakes anything he has not understood; in initiating his own pursuits he looks at a thing from all angles

[1] See *Journal of Education* and *The School World*, Nov., 1921.

and he plans and carries out his objectives. Put shortly the principles are: 1. Freedom. 2. Interaction of groups. 3. Individual work.

It will be seen at once, that the plan is bigger than its name suggests. It is based, it is true, on individual work, but it means much more than that. In its full operation it means a re-organisation of subjects and classes, but it also provides a social re-organisation as a consequence of this. In describing in detail the application of the plan to his own school, the writer desires to cover not only the re-organisation but to point out the social change also.

In any well-conducted Dalton School, there are four distinct requisites:

I

Laboratories.—The Dalton Plan is essentially a laboratory plan. Miss Parkhurst thus expresses the idea. She desires that the rooms of the school be "sociological laboratories with children as experimenters." "Chemicals," she says, "are not the only things that can be put together. Properly furnished, a laboratory would enable a child (in Literature, for example) to have access to complete editions, be permitted to discover that Milton wrote more than one sonnet, and to learn that authors differ in opinion on the same subject. In short, that the mysteries of the world are innumerable, and can never be completed within the covers of one book."[1]

[1] See "Education and the Dalton Plan," by Helen Parkhurst (Bell).

In the school under review provision is made for six laboratories or subject-rooms corresponding with the six subjects that are Daltonised. Those subjects are: English (Composition and Language), Literature (apart from the more formal side of English), Arithmetic, Geography, History, and Drawing. Science (Nature Study) is coupled with drawing for the sake of convenience. The school in which the Dalton experiment has been carried out for over a year is a building of the old type erected forty years ago. The rough diagram below will indicate how the nine rooms and the school hall are used.

<table>
<tr><td>Std. 2
(Grade 2).</td><td>Std. 4
(Grade 4).</td><td>Class
(Form) 5,
Std.
(Grade)
Ex. 7
Arithmetic.</td><td>Class
(Form) 3,
Std.
(Grade) 6.
Geography.</td><td>Class
(Form) 2,
Std.
(Grade) 6.
Literature.</td></tr>
<tr><td>"A" or
Adjustment
Room.</td><td colspan="3" rowspan="2">HALL.
Drawing.</td><td>Class
(Form) 1,
Std.
(Grade) 5.
History.</td></tr>
<tr><td>Std. 3
(Grade 3).</td><td>Class
(Form) 4,
Std.
(Grade) 7.
English.</td></tr>
</table>

It will be seen that as far as possible, the subject-rooms are together. This arrangement minimises

any likely confusion due to moving from room to room.

Everything is done to create in these rooms the right atmosphere. In the Geography room this is not difficult because maps, diagrams, and apparatus are everywhere displayed in the ordinary course of work. The Hall, where the drawing is done, also presents little difficulty in this respect. In the Literature room it is possible by the display of good photo-prints of great writers, and reproductions of art to create a tone; so also with the History room.

In the writer's school, an attempt has been made to decorate the walls of the History room with frescoes of historical interest. These were the suggestion of Mr. J. Littlejohns, R.B.A., one of whose pupils, Mr. Fraser, prepared an original design which was enlarged, drawn, and painted by three or four boys under Mr. Fraser's supervision. The frescoes are about three feet deep, and are placed near the upper part of the walls of the room. The fresco already finished, of which an illustration is given here, tells its own story. It depicts the Elizabethan age. Elizabeth, bigger than all other figures, is in the centre, on the left are Henry and Wolsey, on the right Raleigh. At the extreme left and right respectively are, the suggestion of the Church and its endowments, and the Puritan and Cavalier. A spinning-wheel, a jester, and a hound are also suggestive. This work was purely experimental. It has been so successfully executed both as to design and colour, and, containing, as it does, all the elements of a time-chart in panoramic form, that it is being extended to the other walls of the room.

Already the outline has been made that carries the idea back to early man, and eventually the work will be carried forward so as to bring the idea up to modern times. The experiment is capable of wide extension. It would be extremely valuable, for example, in the Literature room, and would go a long way to replace by something really educational those paltry pictures that so deface the walls of classrooms.

The Arithmetic and English rooms present the greatest difficulty in this respect. The " atmosphere " is maintained in each room by the provision of simple bookshelves which contain the books appropriate to the work being done. The books are mainly of the text-book,descriptive, and reference variety, and are increased in number as time goes on. Here, again, Miss Parkhurst shows her wisdom by insisting that there should be placed in the libraries the kind of books that children find more often in their homes (where books are found there at all) than at school. She refers in particular to books by standard authors which are little read outside school, and have not been read enough in school, because they have been crowded out by the " Commercial " text-books made to sell, and to suit any school in the land.

These subject-rooms are valuable, though not absolutely necessary to the adoption of the principle of individual work, not only because of their environment, but because they ensure to every child the option of freedom of movement from one room (or subject) to another room (or subject) if and when fatigue arrives or when he has completed his work. Should a child find the room of his choice already

full, he is advised to go to another room so as to lose no time.

Two questions may here occur to the reader:

1. Do children spend the whole of their time in private study in the above subjects?
2. What happens with subjects like drill and singing?

The answer to the first question has already been hinted at, but it will be found fully dealt with in the section on assignments. All that need be said here is that one oral lesson period of one hour is given to each subject per class each week. In actual practice it has been found that even this period is scarcely adequate for a subject like arithmetic. But this matter is more fully discussed when dealing with the teaching of arithmetic under the Dalton Plan. It may be objected, in view of statements made in the last chapter about the inordinate length of lessons under the old system, that one hour is much too long at a time to devote to oral work. The reply is that the oral lessons under this arrangement take on quite a different aspect from the old class lessons. Usually a large part of the time is occupied in discussing difficulties that have cropped up in the course of the individual work, and thus the oral lesson is more in the nature of a conference. There is little opportunity for boredom or exhaustion because the matters raised are those in which the children are themselves interested.

The answer to the second question is to be found in the time-table set out on pp. 36 and 37.

From this it will be seen: (1) that Scripture is

an oral lesson; (2) that each boy has two periods of drill and singing each week; (3) that he has six periods of mental arithmetic each week; (4) that two hours' free study are taken in the morning and one in the afternoon; and (5) that oral lessons in each subject (except English) occupy the first lesson in the afternoon. These morning and afternoon periods of free study may be changed over if desired. This time-table is substantially the one in use previously to the adoption of the Dalton Plan except, of course, that oral lessons occupied the time now devoted to free study.

A word should be said on classification. Under any plan of individual work classification is mainly in age-groups. Each age-group (the old "standard") has its own room for registration and similar purposes. These rooms are of course the subject-rooms. Every boy knows his form or "standard" room as distinct from the subject-rooms. It is only when free study begins that boys drift into subject-rooms. A glance at the first diagram will make this clear. At 9 o'clock all the Forms would be in their own rooms for registration and Scripture. At 9.30 the boys in Form 5, whose form room happens to be also the Arithmetic room, may wish to go to Literature or elsewhere, or they may wish to stay where they are and work Arithmetic. There is no difficulty. It may be pointed out here that by this arrangement boys of differing age-groups will drift towards the same subject-room, and thus in one room at any time there may be boys of different ages. This under the plan is a desirable thing, and more will be said about it later.

The writer does not think it advisable, particularly

MORNING

Day.	Class.	9 to 9.30.	9.30 to 10.30.	10.30 to 10.40.	10.40 to 11.	11 to 12.
Mon.	1 (Std. 5) 2 (Std. 6) 3 (Std. 6) 4 (Std. 7) 5 (Std. Ex. 7)				Singing Drill Mental Arith. Mental Arith. Mental Arith.	
Tues.	1 (Std. 5) 2 (Std. 6) 3 (Std. 6) 4 (Std. 7) 5 (Std. Ex. 7)	REGISTRATION AND SCRIPTURE			Mental Arith. Singing Drill Mental Arith. Mental Arith.	
Wed.	1 (Std. 5) 2 (Std. 6) 3 (Std. 6) 4 (Std. 7) 5 (Std. Ex. 7)		FREE STUDY	RECESS	Mental Arith. Mental Arith. Singing Drill Mental Arith.	FREE STUDY
Thurs.	1 (Std. 5) 2 (Std. 6) 3 (Std. 6) 4 (Std. 7) 5 (Std. Ex. 7)				Mental Arith. Mental Arith. Mental Arith. Singing Drill	
Fri.	1 (Std. 5) 2 (Std. 6) 3 (Std. 6) 4 (Std. 7) 5 (Std. Ex. 7)				Drill Mental Arith. Mental Arith. Mental Arith. Singing	

AFTERNOON

2 to 2.10.	2.10 to 3.	3 to 3.10.	3.10 to 3.30.	3.30 to 4.30.
	Lit. Maths. Dg. and Sc. Geog. Hist.		Drill Singing Mental Arith. Mental Arith. Mental Arith.	
REGISTRATION AND OBSERVATIONS	Hist. Lit. Maths. Dg. and Sc. Geog.		Mental Arith. Drill Singing Mental Arith. Mental Arith.	
	Geog. Hist. Lit. Maths. Dg. and Sc.	RECESS	Mental Arith. Mental Arith. Drill Singing Mental Arith.	FREE STUDY
	Dg. and Sc. Geog. Hist. Lit. Maths.		Mental Arith. Mental Arith. Mental Arith. Drill Singing	
	Maths. Dg. and Sc. Geog. Hist. Lit.		Singing Mental Arith. Mental Arith. Mental Arith. Drill	

in the early stages of the experiment, to attempt to work the plan with children below the age of ten, except where special ability warrants the adventure. The classification in the writer's school therefore is in age-groups 10–11, 11–12, 12–13, and 13–14. This arrangement has the advantage of providing each child working the plan with a four years' course of study. It has the advantage also of bringing into the scheme for at least a year all those children who become eligible (at 11 plus) for the County Scholarship Examination. The writer, whatever plan of organisation is under consideration, is decidedly averse from classifying in an elementary school on the basis of mental ability unless it can be done through some such system as the Dalton Plan. The reasons for this objection will appear later. But his main objection is, that too often the lower classes in elementary schools have been crowded with boys whose age alone ought to preclude the possibility of their being mixed up with little boys of tender years. On moral grounds such an arrangement cannot be defended, whatever may be said about inability to do more advanced work.

Whilst it may be inadvisable in elementary schools where children are not, as in secondary schools, selected children, to carry the Dalton Plan to the lower end of the school, experience has shown quite clearly that modifications of the plan on the lines of purely individual work might be attempted with those subjects that most lend themselves to such treatment and with those children who can read intelligently.

Freedom allowed these children will enable them to develop their individual powers, and the

practice they get will enable them to function later as responsible members of the group to which they will go. The number of boys in the writer's school who came under the plan at its inception was 250, and were distributed over Standards 5 to Ex. 7.

The reader will probably have noticed, in the rough plan, a room labelled the " A " or Adjustment room. What is its purpose? It offers the opportunity of even more intensive individual treatment than can be found in the subject-rooms, and it is an arrangement found necessary after a year's work under the Plan. It has been instituted in order to give closer attention: (1) to those who for various reasons often cannot " get along," and (2) for such shirkers as may be discovered (the number of these is very small). Moreover, it was found that some cases made inordinate demands on the time of the subject-masters, in spite of the fact that the average and brighter children made headway by themselves. In fact, under the Dalton Plan, it is the residuum that constitutes the most difficult task for the teacher, and it is the closer attention that must be paid to this residuum that distinguishes, as much as anything, the teacher's work under the Plan from the usual procedure under the old class system. Under the class system the " average " was the governing factor, under the Plan it is the mental " under-dog " that demands attention. In actual practice, it was found that most boys could manage four subjects out of the six. After seven weeks' working of the Plan it was found that 41 boys were still behind with their first assignment of work. On close examination the cards of these boys

showed that one boy was in arrears with Drawing, 15 boys with Arithmetic *or* Literature, and the others with Arithmetic *and* Literature. In each case all the other subjects had been satisfactorily completed and signed for by the subject master. Literature may have presented difficulties to many boys because it was for the first time introduced into the scheme as a definite course of study. These boys are what are referred to above as the residuum—the sub-normal boys, so far as those subjects are concerned—who need greater attention, deserve it, and, under a well-organised Dalton scheme, get it. This increased attention the adjustment-room attempts to provide. The room does not figure as a subject-room, but is a room where *any* subject may be worked by a boy who needs definite help in that subject. It is, in reality, a mental hospital where cures may be effected, or at least attempted. Boys are not permitted to regard a visit to this room as a degradation, but are frankly told that it will ensure them greater help in their difficulties than they could expect to receive elsewhere—such help, in fact, as will most likely enable them in a very short while to " catch up " with the others in their group, whom they rejoin as soon as their difficulties are overcome. It will be apparent that this arrangement not only is a real service to the boy, but constitutes a relief in some degree to the subject-master, whose time can be more fully devoted to the marking of the boys still left in his care, and to advising them as to their work if and when required. After all, no plan is good that does not provide the fullest assistance, though it may not be needed so often, to the average and bright boy.

It would be a calamity if these were retarded in any way, in fact, it would be perpetuating one of the objections to the old methods. Drafting the sub-normal boy to the adjustment room, gives the Dalton Plan freer play so far as the brighter boys are conerned. It gives them their chance.

Care has been taken to see that the adjustment room is properly staffed, and in every way equal to whatever demands are made upon it. The number of boys in this room at any one time is generally about 35 to 40. It should be added, that this room is no part of the Dalton scheme as outlined by Miss Parkhurst, but is referred to here because it has been found to be a necessary and practical way of dealing with a difficulty that has arisen, mainly because of the fact that the boys in the school are not selected boys as is the case in secondary schools after a full year's working of the Plan. It is a practical illustration of the elasticity of the Plan.

The following tables are given to show how the first four boys who finished their month's work spent their time each day. They are compiled from an analysis of the graph card of each boy. It will be observed that they represent the work of boys who completed their job in good time, for whereas they might have taken 20 days to complete their work, they did it in 11, 12, or 13 days. Each of them appears to have done some work at home. The point here, however, is not the length of time the boys took, but the distribution of their time which, in effect, means the amount of movement from room to room. The distribution is interesting.

CASE 1

	Dr. and Sc.	English.	Geog.	Hist.	Lit.	Arith.	Total.
1st Day	—	4	—	—	—	5	9
2nd ,,	—	—	—	5	—	5	10
3rd ,,	2	1	5	3	1	5	17
4th ,,	—	—	5	—	4	—	9
5th ,,	3	3	—	—	—	—	6
6th ,,	2	2	—	—	—	—	4
7th ,,	—	—	10	—	4	5	19
8th ,,	5	—	—	—	5	—	10
9th ,,	—	3	—	10	6	—	19
10th ,,	5	2	—	2	—	—	9
11th ,,	3	5	—	—	—	—	8
Totals .	20	20	20	20	20	20	120

CASE 2

	Dr. and Sc.	English.	Geog.	Hist.	Lit.	Arith.	Totals.
1st Day	2	—	3	5	—	—	10
2nd ,,	—	1	7	—	—	10	18
3rd ,,	—	4	—	—	—	—	4
4th ,,	2	—	—	—	—	10	12
5th ,,	3	1	—	—	5	—	9
6th ,,	—	2	—	5	—	—	7
7th ,,	—	—	10	—	—	—	10
8th ,,	—	2	—	5	—	—	7
9th ,,	2	5	—	—	—	—	7
10th ,,	5	2	—	2	5	—	14
11th ,,	4	—	—	3	—	—	7
12th ,,	2	3	—	—	2	—	7
13th ,,	—	—	—	—	8	—	8
Totals .	20	20	20	20	20	20	120

CASE 3

	Dr. and Sc.	English.	Geog.	Hist.	Lit.	Arith.	Totals.
1st Day	—	5	—	—	—	—	5
2nd ,,	2	—	—	—	4	5	11
3rd ,,	2	—	—	5	—	—	7
4th ,,	2	—	5	—	3	—	10
5th ,,	1	1	5	3	3	10	23
6th ,,	2	—	—	2	—	—	4
7th ,,	1	2	5	—	—	—	8
8th ,,	2	—	5	—	—	—	7
9th ,,	—	4	—	—	5	—	9
10th ,,	5	3	—	5	—	—	13
11th ,,	—	5	—	5	—	5	15
12th ,,	2	—	—	—	—	—	2
13th ,,	1	—	—	—	5	—	6
Totals .	20	20	20	20	20	20	120

CASE 4

	Dr. and Sc.	English.	Geog.	Hist.	Lit.	Arith.	Totals.
1st Day	—	2	—	5	1	—	8
2nd ,,	2	—	—	—	4	2	8
3rd ,,	2	—	3	—	—	—	5
4th ,,	3	3	2	—	—	1	9
5th ,,	—	—	5	5	—	—	10
6th ,,	—	—	5	5	—	2	12
7th ,,	2	—	—	—	5	6	13
8th ,,	—	5	5	5	—	4	19
9th ,,	2	6	—	—	—	5	13
10th ,,	1	4	—	—	10	—	15
11th ,,	6	—	—	—	—	—	6
12th ,,	2	—	—	—	—	—	2
Totals .	20	20	20	20	20	20	120

It will be observed from these tables, that the number of units of work to be completed in a month is 120. This number is arrived at by multiplying the number of subjects (6) by 20 (four weeks of five days each). The distribution of time and subject can be easily followed, and indicates as stated above the amount of movement that takes place from room to room. On some days the movement was at a minimum, *e.g.* on the seventh day in Case 2. In Case 3 on the fifth day it was at a maximum. To those who have an instinctive fear that pandemonium may follow the freedom to move given to boys, these tables, which in this respect are typical, should be reassuring.

Looking at the vertical columns in these another interesting thing emerges. In Case 3, Drawing and Science seem to have presented special difficulty to the boy, for apparently he " nibbled " at it bit by bit almost each day; on the other hand, Geography and History proved easy, as, indeed, seems to be so in all cases. Case 4 found Arithmetic more a burden than did Case 2. One does not press these analyses. An analysis of every boy's card would add too great a burden to the work, but an analysis of occasional cards does serve to show pretty exactly what a boy does with his time, and for that reason the process is useful. These analyses are given here primarily to show distribution of time and subjects.

II

Specialists.—If the full Dalton Plan is adopted specialists are necessary. The subject-room demands them. Here again the adoption of the principle of

"individual" work does not require specialists any more than it necessarily requires subject-rooms, but the full Dalton Plan cannot be worked out without them. There is little doubt, however, that the best results in individual work are obtained where the various subjects are in the hands of those who specialise, or those who, for the time being, are willing to become specialists. Few will dispute that in the case both of children and teacher, interest and efficiency usually go together. It may be necessary in some circumstances (*e.g.* lack of suitable rooms) for one teacher to specialise in two subjects in one room, but the ideal arrangement is one subject per room. In the writer's school the adoption of the Dalton Plan was preceded by a period of specialisation covering four years. The upper end of the school—Standards 5 to Ex. 7—was so organised that six subjects (the same six now Daltonised) were taken by five masters. In that case it was, of course, the masters who moved from room to room; now it is the children who move. This experience with specialisation made it far less difficult to adopt the Dalton Plan than would otherwise have been the case. The same specialists went on as before.

One is often asked the question: How were the specialists obtained? The answer is, they were not "obtained" at all—they were already there—at least potentially. Some members of the staff—and this is probably true of all staffs—preferred one subject to another, and all therefore that had to be done was to sort out in an amicable way all these preferences and get responsibility accepted for them. This, at any rate, is how specialising started in the writer's school, and it has gone on ever since. To

his preference for a subject has been added experience born of constant practice and research. This is, after all, what constitutes the expert. This process is what the writer had in mind in using the phrase " those who for the time being are prepared to become experts." It is not always necessary in considering the adoption of the Dalton Plan to institute a search far and wide to find experts ; they probably exist potentially within the four walls of every school, needing only to be discovered and made responsible.

It would appear, however, that in the future the acquisition of specialists will present even less of a problem. During the last few years the number of subjects taken by students in training has been very much reduced. It is now possible for students to complete their course of training without touching subjects like Geography or History at all. The reduction of the number of subjects means, doubtless, a more intensive cultivation of those that are taken, which is only another way of saying that the teachers of the future will approximate more and more to the rôle of specialists. This was recognised by the Board of Education when, two or three years ago, it published its pamphlet on " First Appointments." It pointed out what has been stated above about the reduction of the number of subjects taken in the colleges, and asked, in effect, that local authorities and head-teachers should bear this fact in mind when the young trainee came into their hands. It is no part of the writer's purpose to argue this question ; he simply accepts the present situation. But it is pretty clear that, if this course is maintained in the colleges in future, not only will they supply an increasing number of specialists, but organisation

of schools on the lines of some form or other of specialisation will become a sheer necessity. A note on " Specialisation " in the Board's " Suggestions " points clearly to this tendency.

III

Assignments.—Whatever form of individual work is practised the use of assignments of work cannot be disregarded. It is only the *form* in which it is presented that admits of argument. Convinced Daltonians recognise at once that assignments are the heart and centre of the plan. Assignments deal with a definite amount of work to be done by the child and should indicate clearly what the work is. To assist the child, the assignment should be so sub-divided that the parts form, as it were, milestones on a journey. The number of these sub-divisions will depend on the amount of experience a child has already had. Children beginning individual work for the first time will require more help in this respect than those who are older, or those who have had previous experience. Different schools call these sub-divisions by different names. The names best known to the writer are :

Contract, *i.e.* one year's work in a subject.
Assignment, *i.e.* one month's work in a subject.
Period, *i.e.* one week's work in a subject.
Unit, *i.e.* one day's work in a subject.[1]

[1] In Miss Parkhurst's book "Education and the Dalton Plan" (second impression), a preference is expressed for " Unit."

The following observations on these may be helpful. If individual work is adopted for all the classes above Standard 4, then there will have to be four contracts corresponding with the four standards 5, 6, 7, and Ex. 7 (or 8). The contract which covers a year's work will (in an elementary school) be divided into ten approximately equal parts. These are the *assignments*, one for each of the ten working months of the school year. Each assignment is sub-divided into four parts or periods. Lastly, the period will contain in it an indication of how much constitutes a *unit*, or day's work in that particular subject. It has already been pointed out, that there are five units of work each week (or period) in each of the six subjects taken.

The number of subjects for which assignments are drawn up has already been indicated. It will have been noted that English is viewed from two standpoints—the scientific and the creative. More will be said of this later. The more formal English (language, including grammar and composition) is dealt with in one room, while the creative and artistic side of English (literature) is dealt with in another. These two aspects of the language are separated only in the sense that the appeal of literature is vastly different from that of formal English. Composition provides the link, for it makes claims on both rooms and serves to unify them. Composition, while it is creative, is not creative in the sense that creativeness is sought to be cultivated in the literature room. Howbeit, one room supplements the other in very definite, and sometimes very wonderful, ways, as will be shown later. In the school under review there is no science

laboratory, and no workshop. It is therefore not easy to arrange for much definite individual work in Science, whereas under proper conditions and the Dalton Plan excellent results might be obtained. For convenience in drawing up the time-table, therefore, Science (that is, Nature Study) is placed with Drawing. Of the two hours assigned to Drawing each week, one is largely used for ordinary demonstrations in Science. Reading work in Science is set in the assignments, but there is little opportunity for individual work in this subject in any other form. Drawing includes also practical drawing.

Any wise organiser in drawing up the school time-table would be careful to allocate to the different subjects such time as was available for the school curriculum in such a way as to place the emphasis on those subjects which are regarded as the more important. English, as the basis of our national education, receives in the writer's school one-half of the available time, that is to say 10 hours out of 20 are devoted to this subject. The other half is allocated as follows: Mathematics 4 hours, Geography, History, and Drawing 2 hours each. From these times one hour is deducted from that given to each subject, with the exception of English (language), for oral lessons. No oral lesson is taken in English. The reason for this will appear as the account proceeds. The time remaining to each subject is devoted entirely to " free study," that is, to individual work. These free-study times now become: English 5 hours, Literature 4 hours, Mathematics 3 hours, and Geography, History, and Drawing 1 hour each. From these figures can be

deduced what, if every boy were normal and worked at the same rate of speed, a unit's (or day's) work in any particular subject ought to be. The following table will make this clear :—

Subject.	Hours devoted to it.	After deducting time for oral ins.	Length of day's or unit's work.
English (language and composition) .	5 hours	5 hours	60 mins.
English Literature .	5 ,,	4 ,,	48 ,,
Mathematics . .	4 ,,	3 ,,	36 ,,
Geography . .	2 ,,	1 ,,	12 ,,
History . . .	2 ,,	1 ,,	12 ,,
Drawing and Science	2 ,,	1 ,,	12 ,,
Totals . .	20 hours.	15 hours.	3 hours.

The following observations are offered on this table. The number of hours to be accounted for in a week in an elementary school is 27½. It will be seen from the above table, read in conjunction with the time-table given on pp. 36, 37, that the odd 7½ hours are devoted to Scripture, Drill, and Singing (all taken by approved " class " methods) and to registration and recess. The remaining 20 hours are accounted for in the table above. This allocation of time to subjects is essential from the teacher's point of view. From the scholar's point of view it is equally necessary, because a child should have some idea of subject-values. When the Dalton Plan was first adopted in the writer's school a rush was made for those subjects that involved more physical activity than others (this fact in itself was enlightening) ; and it was not at all uncommon to find boys

drifting away to the drawing-room and remaining for one, two, and sometimes three whole school days entirely oblivious to the claims of any other subject. As all the assignments are drawn up on the basis of the times set out in the above table, it will be clear to the reader that, if a boy spends the whole of three days' free study in drawing he has spent sufficient time for a normal boy, working at a normal rate, to complete the whole month's work in that subject twice over, and more. On the other hand, it cannot be too greatly emphasised that it is not pretended that these times can be rigidly adhered to. To do so would be to undermine the principles of individual work altogether. Besides, children do not work in such a clock-wise fashion. That will be plain when a later table is consulted, which discloses actual results. What is intended is that a child should have a working knowledge of subject-times, and have some standard to work to, so that if asked to do a piece of work in any particular subject, he should try and get it done in something like reasonable time—or else seek advice. If, for example, he is asked to do a piece of work in Geography, History, or Drawing, and is told plainly in the assignment that it is a unit's work, it should occupy him 12 minutes or thereabouts, and, if it is in English, 60 minutes or so. It should not detain him for three whole days, because, if the work were such as to call for assistance, he should get it long before that time had arrived. In this way a child can be led to realise that time taken beyond the limits set in the table is time lost. On the other hand, time saved is time gained which can be devoted to other (and perhaps weaker) subjects.

Neither is it intended that a child shall work 12 minutes here, 12 there; one hour here, and one hour there. The time values have relation solely to the units of work in the assignments, and are worked out in order to prevent loss of time by inability to grasp the work set, or by shirking or dallying.

It will be obvious to all readers that these times will not suit all schools and all circumstances. But they can be made the basis for other schools to work out their own times, and are offered in that spirit.

The drawing up of assignments is no easy task. It is not, in the writer's view, sufficient that the assignment be a mere reference to a text-book. It should be very much more than that. It should be so planned as to "intrigue" the child straight away. Speaking broadly, the following arrangement in the assignment itself has been found to work well. The arrangement will, of course, vary with the subject treated.

(*a*) Brief introduction to the matter to be studied.
(*b*) Indication of the reading matter to be gone over by the child.
(*c*) Questions.
(*d*) Books for home reading (this in subjects like History and Literature).

The following is a specimen assignment in History, and illustrates the way in which the arrangement just suggested is carried out :—

HISTORY

CONTRACT I.—NINTH ASSIGNMENT

First Period

The chapter you will be asked to read this week is upon the subject of Free Trade. Last month you studied the Industrial Revolution and its effects upon the country. England was becoming more and more an industrial country. Hitherto we had shut out the foreigner by the imposition of duties on foreign corn and other commodities in order to make ourselves independent and self-supporting. By these means it was expected that England would grow rich. So far this was true, but with the growth of our manufactures, the population of the country increased also. The supply of home-grown corn was insufficient to meet all demands, and the Irish famine brought matters to a head. Alterations were made in the Navigation Acts, and with the Repeal of the Corn Laws in 1846, England became the first free-trading country in the world.

Read:

Free Trade (Warner, pp. 212–218).[1]

Questions:

1. Name the most prominent men who were the means of establishing Free Trade.
2. What is meant by Free Trade?
3. How did the Irish famine hasten the repeal of the Corn Laws?

The reading counts for 2 units and the questions for 3.

Home Reading:

"In Taunton Town" (E. Everett Green).
"Micah Clarke" (A. Conan Doyle).

[1] "Brief Survey of British History," by Townshend Warner (Blackie).

Second Period

Every boy will have heard, and may possibly have read about the Crimean War. Not only is it necessary to be acquainted with the principal events of that campaign, but it is most important to know the causes leading up to it. Both Britain and France were afraid of the growing power of Russia. The Russians were anxious to take possession of Constantinople, and showed their dislike of the Turks because the latter barred their way to the Mediterranean from the Black Sea. In fact, they wished to dismember Turkey and proclaimed the right of protecting the Christians of Turkey. Russia made certain overtures to England, but these were indignantly rejected. If you look at a map of the world you will understand that we feared Russia more on our Indian frontier than we did in Europe. Follow your book carefully and you will see why England and France aided the Turks against Russia.

Read:

The Crimean War (Warner, pp. 218–222).
The Crimean War (Gardiner, Part III., pp. 193–203).[1]

Questions:

1. Draw a map of the Crimea and mark the places where battles were fought.
2. Write all you know about Miss Florence Nightingale.

The reading will count 3 units and the questions 2.

Home Reading:

"For Faith and Freedom" (Sir Walter Besant).

[1] Longmans, Green & Co.

Third Period

It will not be necessary to say much about the Indian Mutiny, for all boys are interested in its story, and have read a good deal about it. You will remember that India at this time was still under the rule of the East India Company. Much had been done to establish British control by educating the people and improving the means of communication, so that one part of the country became more accessible to the other. To this end the railway and the telegraph were introduced. But many of the Natives were not favourably disposed to these new ideas, and signs of unrest were not wanting. One thing led to another, and popular discontent soon vented itself by open revolt on the part of native troops or Sepoys as they were called. This was the beginning of the Indian Mutiny.

Read:

The Indian Mutiny (Warner, pp. 222–226).
The Indian Mutiny (Gardiner, Pt. III., pp. 203–212).

Questions:

1. Draw a map of India and mark the place where the Mutiny broke out.
2. When and why was the East India Company dissolved?

The reading counts for 3 units and the questions 2.

Fourth Period

Our work this week will be more in the nature of revision, and I shall ask you carefully to read pp. 49–59 of the Synopsis of British History.[1] Having done this, write out in your exercise books the Causes, Events,

[1] Oliver & Boyd.

and Results of the Crimean War and the Indian Mutiny. This will count for 5 units' work.

Home Reading:

"Mistress Dorothy Marvin" (J. C. Snaith).

It is essential that the questions be so framed that full answers to them cannot be supplied unless the pupil has carefully gone over the matter set for reading. In the early days of the experiment in the writer's school, this point was not sufficiently noted. For example, one age-group was reading (in Literature) Defoe's "Journal of the Plague Year."[1] There is a reference in the Journal to a piper who during the plague period had imbibed not wisely but too well, and who, lying intoxicated on the ground, was flungi nto the dead-cart. The scene, when the piper revived, is described in the Journal. The question set was: "Tell the story of the piper." It was a little disconcerting when several boys, noticing only the word "piper" jumped to conclusions and told quite unconcernedly the story of the Pied Piper of Hamelin. On the other hand, these early days were difficult also because so often the questions were answered from previous knowledge and without the boy having done the reading set. This was noticed on account of the inordinately short time it took some boys to do that particular assignment. That difficulty, however, in this particular phase of it was cured by time.

The questions therefore are of great importance—not only for what they ask, but also for the way they ask it. The reading matter should lead up to and assist the questions.

[1] Blackie's English Texts. Edited by Dr. H. D. Rouse.

Apart from the matter to which the assignment refers (which may or may not be interesting) the arrangementof the a ssignment should aim at being interesting, attractive, and helpful. Dull, dreary assignments will assuredly kill enthusiasm. On the contrary, assignments should embody the " Dalton " spirit and the " Dalton " touch.

Successive assignments should be made carefully so as to follow each other naturally. There must be continuity. It is unlikely that any teacher drawing up assignments for the first time will attempt to draw up at once sufficient to cover the whole year. Nor is it desirable to do this. Experience shows that while it is advisable to have at least two—better still three—assignments in hand, it is unwise to draw up the whole ten at once. As in other matters, skill develops with practice and experience. And whilst " long-windedness " in later assignments may become a besetting sin, it is necessary that a teacher leave himself opportunities as time goes on to repair in later assignments the mistakes and omissions of the earlier ones, which experience brings to light. This again is evidence of the elasticity of the plan.

The question is often asked as to how many assignments should be used for each age-group? In other words, should the assignments be graded? Some experimenters use two, and some three sets of assignments for each age-group. The writer is inclined to the view, and his experience confirms this, that in elementary schools one average assignment is sufficient to meet the case. This may be taken to represent a sort of " irreducible minimum " of work in each subject. Something more will be said of

this in connection with Arithmetic. It is not to be expected that all pupils will advance at the same rate to the same point in any subject. Indeed, the principle of individual work is based on the differences in children. Some will show a special aptitude and a greater interest in some subjects than in others. If necessary, therefore, to those who complete the "average" assignment in good time further work can be given either then or later on. The difficulty in practice, however, is not whether or not more work shall be given—the difficulty is to get the "average" assignment done by *all* boys. The average boy will do it, but in order to keep things going, it is necessary to be tender towards those who are sub-normal and help them if possible to win through.

This is the justification of the adjustment room. Under the Dalton Plan, it is also the teacher's privilege and opportunity. In this respect the conditions in the elementary school differ considerably from those of the secondary school where the children are mainly selected children. This fact alone makes the experiment of individual work in the elementary school a very different problem from the same experiment in a secondary school. The super-normal child in either requires little help with his assignment from anyone, the average child will get along quite well, but the sub-normal child needs very much assistance. The percentage of such children is usually about 25. Indeed, all the statistics the writer has collected during the experiment from actual results go to support the finding of the Departmental Committee on Scholarships and Free Places to the effect that in

elementary schools the pupils may be divided broadly into three groups: the normal, the super-normal, and the sub-normal, with percentages roughly of 50, 25, and 25 respectively.

This being so, it is the writer's view that it is best to allow the super-normal child to go on from assignment to assignment, and from contract to contract till he has completed the course. He may finish the course in 3½ or even 3 years: he can then be given more advanced work, or be allowed to specialise in those subjects in which he displays the greatest vigour, and for which he shows the greatest affinity. This plan has two distinct advantages: (1) such work will be given to the boy at an age and stage of development when he can benefit most from it; (2) the arrangement will obviate "marking time" at the upper end of the school, a process which, under the old system, was not always convenient to deal with, and which is such a source of irritation to interested and intelligent parents. The average child will finish in the normal time allowed, but the sub-normal child will take very much longer time. It is a profound mistake, however, to suppose that those children who take longer time with their assignments are therefore the dullest children. Nothing is further from the truth. The writer has in mind the case of a boy who insisted on sitting for the County Scholarship Examination recently; he was working his fourth assignment, while some of the other boys of his age-group were on their eighth. In the scholarship result this boy was placed second. The moral is plain. Working in his own way, silently and thoroughly, he had assimilated the work he had done with the result

indicated. On the other hand, "racing" (that is, trying to get over the work in record time) is not to be regarded as a virtue. It is fatal to real success in work. America has produced the "speed-and-feed" theory in industry. Anything approaching that theory in education would make the principle of individual work of no effect.

The standardisation of assignments is a matter frequently discussed. There is little to be said for it on educational grounds. The ideal assignment is an individual one for each child. It should be a personal thing as between the teacher and the child. The adoption of the "graded" assignment by some experimenters is an attempt to reach the ideal, and looked at from that point of view it is a correct procedure. But, apart from the distinctly educational aspect of the matter, which, after all, is the most important one, it will be clear that experience and circumstance must be the guiding and determining factors in this matter.

Every child should be supplied with a fair and clearly printed copy of the assignment he is asked to work. These may be cyclostyled, hectographed, or type-written. It is not advantageous to ask children to copy the assignment for themselves from a standard copy hung in, or outside, the room. The process wastes time, and frequently develops into mere scribbling and error. It is clear, however, to anyone who thinks about the matter, that the mere physical labour involved in reproducing a sufficient number of copies of only one assignment per age-group, for each of the ten months of the year, is a colossal task, and one that cannot be imposed on teachers without the danger of a sacrifice of much

time and energy which are required for other and equally important work. When this is considered in conjunction with the difficulties as to staffing and classification in rural and other small schools, it is fairly clear that a strong case could be made out for standardisation of some sort, if only as a guide to teachers themselves. It would, however, be disappointing if, in the effort to supersede an old system, another just as rigid were set in its place. But looking at the matter all round, and remembering the enormous labour involved in (1) drawing up assignments ; (2) reproducing them for class use, it would seem better to have standardised assignments than that the principle of individual work, or some modification of it, should not be made use of at all. Intelligent teachers could adapt such assignments to their own purposes.

There is one other point that should be touched on before the matter of assignments is left. Where a teacher draws up his own assignments, or, indeed, makes the right use of others, adequate preparation of the work is ensured. The most vital thing about them is that, in preparing them, the teacher is compelled to think ahead. Anyone who has had experience of the old system will know exactly what this remark is intended to indicate.

IV

Checks.—No responsible teacher will undertake individual work, or any other form of school work, without carefully checking the results as work

proceeds. Checks and graph cards of some kind are a necessity. Whilst it may be possible to omit subject-rooms and specialists from any scheme of individual work, it would be distinctly unwise to omit from it some definite means of measuring up the work. Unless records are kept—and well kept—individual work of any kind will early develop into muddle. If, however, they are attended to as an integral part of the plan, they become of the greatest assistance to both teacher and pupil alike. On the teacher's side they give an idea of the progress or otherwise of the pupil; on the pupil's side they enable the child easily to visualise his position in the various subjects at any particular moment. It would be fatal in any school where individual work is practised to go plunging on in the dark heedless of what is really happening in the school work. The graph cards prevent this. Once a child gets used to filling in the card the amount of time and effort required to do it is negligible, and although the process may be objected to as involving too much "ticketing and docketing" it is vitally necessary if sloppy work is to be avoided.

Miss Parkhurst suggested three different devices for checking. They are:

(*a*) The scholar's card.
(*b*) The instructor's graph.
(*c*) The house graph.

The first named consists of a card[1] measuring

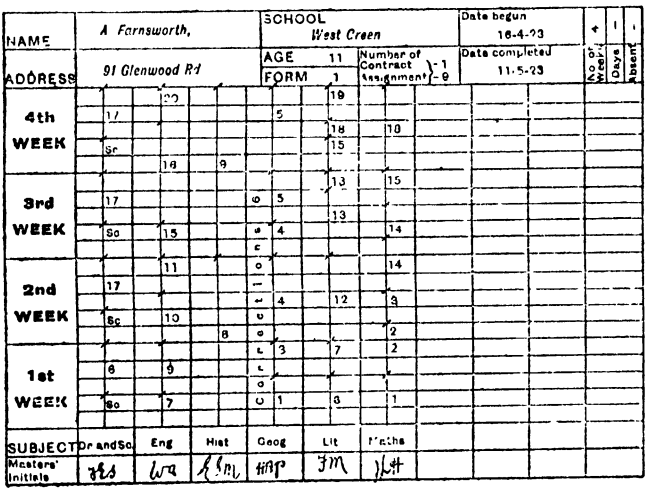
[1] These cards may be obtained from the Educational Supply Association, Ltd., 40-44, Holborn Viaduct, E.C.

about six inches by nine inches divided by horizontal lines to represent weeks and days, and by vertical lines to separate the subject records from each other. Provision is made for the name of the pupil, his class, the number of the assignment he is working, the date of commencement, and the date of completion. The following is a specimen :—

NAME				SCHOOL				Date begun				
ADDRESS				AGE / FORM		Number of Contract Assignment		Date completed			No. of Weeks	Days	Absent
4th WEEK													
3rd WEEK													
2nd WEEK													
1st WEEK													
SUBJECT													
TESTS													

The purpose of this graph is that a pupil may from day to day record his personal achievement. The really important points about the card are: (1) the date of commencement and the date of completion, and (2) the number of days absent or the number of days when the school is closed. The names of the subjects taken are written in the spaces at the foot of the card, and the graph will consist of a straight line drawn upwards. It will be noted

that each column represents the 20 units of work. If therefore six subjects are taken 120 is again seen to be the number of units of work to be completed and shown on the card. A reference to the table previously given will remind the reader in what these units consist. Here is an actual card as filled in by a boy. It is worth while trying to follow it through.



The numbers beside the graph lines show the succession of days on which the particular units were done, and the spaces between the ticks show the number of units of work done at each effort. For example, following the card through, it will be seen that this boy did 3 units of Mathematics and 3 units of Geography on the first day when he received the card; on the second he did 3 units of Mathematics;

on the third 2 units of Mathematics and 2 of Geography. After the third day he left his Mathematics, and by the sixth day he had completed (including corrections) his Geography and began Literature. He took up English and Literature for a day, and then worked at History which he completed by the ninth day, having also done a little English. History and Geography were initialled by the subject-masters as being satisfactory. On the tenth and eleventh days English was again tackled; on the twelfth and thirteenth days Literature, while on the fourteenth he returned to Mathematics. On the fifteenth he worked English Literature and Mathematics. On the sixteenth he worked at English; on the seventeenth he finished his Drawing and had it signed. On the eighteenth he completed Mathematics; on the nineteenth, Literature, and on the twentieth, English. By following cards through in this way one is able to compile such analyses as were given on p. 42.

In this way it is easily possible to trace the work of a boy during the whole month. These items may be further checked, if occasion should arise, as it sometimes does, by a reference to exercise books and a comparison made of the actual work done with the assignment. To enable this to be done quickly, it is advisable always to have the work in the exercise books properly dated and labelled "First period," "Second period," and so on. It is soon apparent whether the boy is losing or gaining time, especially if the standard times previously referred to be borne in mind. There it was pointed out, that the unit of work in Drawing should occupy 12 minutes or so, in English 60 minutes, and so on. One space

upward on the card in the drawing column therefore represents that 12 minutes, but in the next column (English) the same space represents 60 minutes. In the Literature column it represents 48 minutes, and the Mathematics 36 minutes. Or to put it in another way, the whole graph in the first column takes about 4 hours to complete, whereas the graph in the next column takes 20 hours to complete. It will be remembered that each boy has 3 hours' free study each day.

In the card reproduced above, the boy did 3 units of Mathematics and 3 units of Geography on the first day. This might have taken him, according to the table of allocated times, 144 minutes; but as he took 180 minutes to do the work according to his card, he was losing time. On the other hand, on the sixteenth day he achieved 6 units of work in English —equivalent to 6 hours' work—but as he did it in 3 hours he gained very considerably. It may, of course, be argued that in this particular instance, the work in one case was easy, in the other difficult. This, however, is not the point. What is true is that though loss is sustained in some directions, there is gain in the others. Which may be another way of saying, that in this case the boy liked English and disliked Mathematics. He gained time where he was interested. In the course of the month the gains balance the losses.

A further point about these checks is that, if a daily inspection of the cards is made—a process that takes only a few minutes—it is possible to ascertain whether or not a satisfactory day's work can be shown. This is most conveniently done first thing in the morning. The shirkers are disclosed, and

what is much more important, a boy who finds himself in difficulties with a subject can be directed to help at once.

The instructor's graph is a sheet made out like an ordinary school register to contain the names of the boys in each age-group. There is a separate register for each subject. Following the names are twenty columns (marked off for weeks) corresponding with the spaces that run upwards on the boy's card. The graph on the instructor's register is thus a duplicate in any particular subject of the graph on the scholar's card. The great advantage of the instructor's register is that it gives the instructor a bird's-eye view of the position of the work of each boy in each age-group in any subject, and without consulting the scholar's card he can tell which boys are falling behind. But the writer found one great disadvantage. As these instructor's graphs accommodate only about thirty names it was necessary, on account of the size of classes, to have two graphs to each age-group, and altogether it required ten of them to be displayed in each room. The filling in of these registers became a cumbersome work, and seemed to point to some handier form of instructor's graph as more desirable. Each subject-master now makes his own record in a book specially arranged for the purpose, and keeps it always near at hand.

The house graph carries the instructor's graph a stage further by indicating the achievement of groups in all subjects combined. It covers a year. This adds considerably to the work of checking. The writer has not yet adopted it, the main reason being that in his actual experience of

individual work he has found competition reduced to a minimum—a fact in which he takes some pleasure. This is the more remarkable because at the beginning of the experiment there was a house-system in being.

The writer has found it necessary to institute a head-master's record. This was done in order that he might possess, without having to consult at every moment the scholar's card or the instructor's register, a handy reference which would enable him to know the position of individual boys, and if necessary interview those boys who might need some additional advice. What happens is that, when a boy has completed one month's assignment, he brings his card to the headmaster, who makes a note of it in his own record and issues a new card. In this way the headmaster keeps in touch with every boy.

Assignment.	I.					II.					III.					Etc.
Name.	Date of starting.	Date of completion.	Days taken.	Order of finishing.	Days absent.											

These then—subject-rooms, specialists, assignments, and checks—are the features of individual work. The two last-named are essential requisites of any plan of such work, but all of them are necessary to that form of individual work known as the Dalton Plan.

CHAPTER IV

SOME ADVANTAGES OF INDIVIDUAL WORK

THE advantages that flow out of a well-organised scheme of individual work are many. They may be summarised as follows :—

In the first place, a child works for himself, and, as Miss Parkhurst expresses it, " has a hand in his own education." And what is of the greatest importance, he works at his own rate of speed. He may also work at the subject that, at the moment, exercises the greatest appeal. Not that the child ignores altogether any subject that falls within the category of his work, for one of the stipulations laid down is that he must complete the month's work in all subjects before he goes on to the next month's. What actually happens, when a child is intrigued on the side of his interest, is that he gets that particular work done fairly quickly, and saves time which can be devoted to weaker subjects. Any form of individual work allows a child to work for himself at his own rate of speed.

It is not unusual to find devotees of the principle of individual work stressing the idea that a child is learning as opposed to being taught. Whilst this is perfectly true, it is necessary to state one's belief that a system which attempts to exclude teaching altogether is doomed to failure. There will always be room for what Mr. George Sampson calls, " The

Art of Listening."[1] There is little doubt, as stated in Chapter II., that in the past there has been too great a glorification of the class lesson which, when all is said and done, is largely a teacher's affair. There was grave danger in spite of appearances of excluding the child. But in the enthusiasm resulting from the reaction from class methods it must be frankly acknowledged by every one that there is still in education a distinct place for teaching. There is, and probably always will be, not merely a place, but a need for inspirational teaching. The mistake in the past has been that teaching in the technical sense has occupied the whole stage, without regard to the fact that some subjects do not lend themselves to such treatment. The problem now is to seek a just balance between the claims of learning and teaching. A glance at the time-table given on a previous page will show how it has been sought to establish this balance in the writer's school. Briefly put, what happens is this: in every subject but one (English, that is, language and composition) there is one hour per week devoted to actual teaching for each age-group. This has seemed to meet the case. In History one hour out of two devoted to the subject is used for oral work; in Literature it is one out of five. This raises the question as to whether in the English subjects sufficient provision is made for vocal practice and expression. That, however, will be dealt with in Chapter VI.

In the next place, a child is allowed to see what is ahead of him in his work. In the course of spoon-feeding in the earlier days it was rarely

[1] See "English for the English," by George Sampson (Cambridge Press).

allowed to a child to realise whether one spoonful had any relation to the next spoonful. These spoonfuls of pre-digested food were dropped into the child's mouth at the appropriate moment—and that was all he knew about them. With individual work, where a child is given a month's work to do (or even less than a month's), he does to that extent at least know where his work is leading him. It is better still, if he is allowed to see the whole syllabus—he then has an idea of the connection between the different assignments and begins to understand at what he is aiming. The principle of individual work proclaims therefore the gospel of "the whole job."

Then there is the advantage that useless repetition is avoided. Here, again, one needs to be careful. Repetition is, of course, necessary at times, but there is little justification for repeating a History or Geography lesson, for example, twice or three times simply because one or two children were absent when the lesson was first given. The writer remembers the following conversation with a small boy working under the class system, and it throws light on the point. "What is your lesson this afternoon?" the writer asked. "History," was the rather jaded reply; and the boy continued, "I hate it; we have had the Wars of the Roses three times already. I can almost tell what Mr. Rackem is going to say next." Self-study methods avoid this kind of thing. A child, absent from school for any reason, just picks up his work where he left it off. The others, of course, go on.

From the point of view of school organisation there are advantages of the utmost importance.

One lies in the unique opportunities afforded of co-ordinating the work in the various subjects. This does not mean a mere correlation of the work as that term used to be understood in some quarters. In days not very far distant correlation used to be run almost to death—as much as a whole week's work would be concentrated on a single subject. For example, to quote an extreme and stupid case, assume the subject were an apple, then Arithmetic would be framed in terms of apples, the Drawing copy would be an apple, there would be a story about apples, and even the songs would be in praise of apples. And so the weary business would proceed. This is not co-ordination, it is segregation into water-tight compartments with an appearance of preserving unity. An American writer once described this kind of thing as the limber-crutch of the weak teacher. Co-ordination is a very different thing; one subject is made the handmaid of another. Arithmetic and Drawing, for example, become closely associated, Geography, History, and Composition become inseparable, and Literature pervades them all. In practice, the English master would not complete his assignments in English before knowing what was being done in History, the Science man would inquire how far Arithmetic had progressed, and Arithmetic and Practical Drawing would be very closely associated.

The problem of promotion in an elementary school always causes anxious moments on the part of the teacher, and sometimes heart-burning on the part of the scholar, unless it is accomplished in bulk and without exception. Frequently promotion has to hang upon the size of classrooms or a date in the calendar.

Those teachers who can recall the old régime will know what these things meant. The impossible task of squeezing a class (say Standard 4) comprising 55 boys into a room waiting to receive (say) Standard 5, but which will hold only 40 boys, led often to all sorts of shifts which were neither fair to the child nor dignified in the teacher. This kind of thing is made unnecessary. For under any scheme of individual work boys are allowed to go quietly on from assignment to assignment, and from contract to contract, until they finish what, in the writer's school, is, in effect, a four years' course of work. Moreover, if some finish their work in less than the allotted four years by the simple process of gaining time, as many boys may be expected to do, they can be provided, as has already been pointed out, with additional assignments of work of a more advanced nature, and of such a character as to stimulate the boys to further and better work in the direction of their bias. Or such work may be given at the end of each assignment. But in either case the interest is kept well in sight. The point is here a two-fold one: (1) that promotion becomes a steady and continuous thing going on regardless of the disposition of the bricks and mortar of a school building or the date in a calendar; (2) that no boy need "mark time" at any stage in his later school career. This has a very real bearing on the work of an elementary school. Any responsible teacher knows the futility of promoting promising pupils unless some special arrangements can be made to cater for them at the upper end of the school—a thing not always possible, and even less possible now than formerly, owing to the depletion of staffs now

unfortunately taking place. Parents, too, know the difficulty. Many parents whose boys have reached the top end of the school at a slightly earlier age than fourteen (when they are entitled to leave) have been known to complain that their boys are doing nothing, or desire them to leave earlier because "there is no more to learn." It is tragic. A course of individual work on some such lines as suggested here, with promotion going on automatically, and a prospect of more advanced work being given at the end, wipes out the problem and provides study for a boy however long he may be at school.

Again, homework is a problem of importance in schools. The writer holds the definite opinion that *imposed* homework is a nightly tragedy in the lives of large numbers of children attending both elementary and secondary schools. There is reason to believe that it is particularly so in the case of the latter, but it is not by any means unknown in the case of the former. Some such plan of individual work as is here outlined goes a long way towards solving the problem. A child, in his desire to get his work done, will often do a little of it at home, willingly and of his own initiative, in order not to fall behind. In such cases homework becomes a pleasure instead of a burden or a bane. The sting is taken out of work. Many times in the writer's experience he has come across boys' graph cards, which, on analysis, disclosed the fact that a good deal of work had been done at home. As one boy very aptly expressed it: "You needn't waste your time at nights when you've got something to do." The wise reader will note an implication in this remark that is vaster than the mere problem of homework.

It is the problem of the right use by young people of leisure time.

Another school problem that is favourably affected by the practice of individual work is discipline. The disciplinary trouble, even with large numbers, is so much reduced as almost entirely to disappear. The reason is not far to seek. Indiscipline in schools, as everywhere else, is mainly due to want of occupation. Individual work provides the remedy. There is no need for a child to be idle at any moment, and in consequence he has no need to fall into mischief. The writer's experience in this matter is not exceptional, but it may be worth while to state that, though the large number of visitors who come to the school offer much distraction, the boys, absorbed in their own work, go quietly on heedless of anyone. Indeed, it must have been this characteristic of the work that led an Inspector to say during a recent visit, in a half-humorous way, that he could not get the boys to see that he was a person of any importance. The secret of this lies in the fact that the discipline is self-imposed.

On the administrative side of school practice, as great, if not greater than the advantages that have been enumerated, is the advantage that the plan of individual work, honestly and faithfully carried out, produces " more and better " work. Twelve months' experience in the writer's school places this beyond all shadow of doubt. It has been shown, not only in the ordinary work of the boy, but in the results of the full-dress tests of the conventional type that have been given periodically. It is not easy, without running the risk of being misunderstood, to state what the additional quantity of work produced is

like. Let it be put in this way. Under the old class system, in composition, for example, it was often considered a pretty good week's work if a teacher obtained one, or perhaps two, good written compositions, and was able to get them marked. With the arithmetic, and perhaps a little dictation, this was all the written work the class was expected to do. It might fill a couple of writing books and a couple of arithmetic books in a year. Under the plan of individual work, it is not uncommon to find a boy use an exercise book a month for English alone; in fact, the average number of books filled by each boy in this subject was between six and seven. If to these are added the books used in Geography, History, and Literature, it will be seen that the claim to " more " work is overwhelming.

But the mere quantity may mean little if the quality does not also show advance. Happily this was exactly what happened. One of the most interesting things to watch in the experiment was the progress made by some of the boys. It was seen, as month after month passed by, that the comparison of the first month's work with, say, that of the fifth or sixth, was often a revelation. Once a boy gets into his stride, and honestly faces his job, he seems to move on. Even the dullards do enormously better. Average boys, of course, do well, but brighter boys go ahead. Several boys who under the old class system were classed as mentally deficient are now doing excellent work.

The reader will probably at once seize upon the point of the increased use of stationery, but in spite of all that has been shown to be possible in the preceding paragraphs, it would still be easy to

demonstrate that the practice of individual work is more economical than the old system. The writer, however, does not support it on this ground, and desires to express the hope that the case for it will never be argued on these grounds at all. The fact remains, however, that though there may be an increased consumption of stationery, there may be, and is, a very great saving in the cost of school text-books. Whereas under the old system a large number of text-books was required to go round a class—perhaps fifty or sixty—no such number is required under any plan of individual work. Six, or at the most ten, are ample. The average elementary school is lamentably lacking in what is essential to the work of the school, viz. a varied supply of good books. The economy cannot therefore legitimately arise until the supply of books is made adequate to the work. After that has been done, there is little doubt that the plan can be economical in equipment.

Apart from these advantages, which are concerned mainly with educational efficiency, there are other and valuable benefits of a social kind, especially where the full Dalton Plan is adopted, which should be pointed out here. The greatest of these is freedom. It has already been pointed out that the teacher has long been freed from the grinding necessity of attempting to produce results on which grant depended—a system to which he was tied for many years. It is the child that has now to be freed, and the practice of individual work does something to bring this about. The adoption of any form of individual work carries with it some amount of freedom, either in choice of subject or

movement. But the greatest amount of freedom in either respect comes from the Dalton Plan. In what does this freedom really consist? In the first place, there is an almost entire absence of repression —the child is free to work, to talk, to think, and to ask questions. In the second place, if the full plan is adopted, he is free to move from room to room if and when he desires. This movement takes place usually when the child is fatigued, or when he has completed a definite portion of his work. To some sympathisers with the plan, the idea of children being allowed to move about freely conjures up in their minds a picture of constant comings and goings —a whirling to and fro that amounts almost to pandemonium. Nothing is further from the fact. Although 250 boys in the writer's school are affected by the plan, it is seldom that the number of individuals who change their rooms within the periods of individual study is more than a dozen in the course of a whole day. There is, of course, a great deal more changing done than is represented by the movement of a dozen boys from room to room, but changes are made after a recess or after registration, when boys decide to take fresh subjects. This is due to the fact that the free-study periods are well spread out over the time-table.

It has been necessary, of course, from time to time to insist that freedom is not licence. When repression was first lifted from 250 boys there was real danger of some of them running amok. That experience however was very short-lived. It soon became apparent that there would have to be some sort of regulations to make it possible to work and live at all. In Mr. Sidney Webb's favourite phrase, it was

seen that " law is the mother of freedom." These lines are being written at a time when the Habeas Corpus Act is being much discussed. It is only referred to here in order to illustrate how clearly freedom *within the law* has been achieved. Freedom under individual work is not an undisciplined freedom, but an orderly and regulated freedom.

The value of this freedom in an elementary school cannot be over-estimated. Any sense of fear, or a feeling of standoffishness on the part of children seems to disappear entirely, and give place to a familiarity by no means rude but extremely refreshing. One boy expressed the situation in very flattering terms when he said quite frankly that the teachers were now more like big brothers.

There is another aspect of the matter. Whereas under the old system a teacher was occupied with " teaching " all day long and every day, he is, under the plan of individual work, teaching only when the necessity arises. This surely is the real function of the teacher. Instead of imposing himself constantly on the children, and putting himself between them and their work, he is now at their disposal to assist when required. To use the catch-phrase of the Daltonians—one that always provokes a smile—the teacher is no longer the hunter and pursuer, he is himself hunted and pursued. A child wants his difficulties cleared up. Owing to the sense of freedom which he feels and recognises, and knowing that he runs no risk of having his head bitten off if he presumes to ask questions, he now comes of his own will and accord, in his simple way, and asks such questions as : " Please, sir, would you mind telling

me what this means?" The teacher, rapidly surveying the situation, gives advice or information as the case may require, and the child, reassured, goes confidently on with his job.

Under the plan of individual work, some such relation as this is bound to prevail between the teacher and the taught. For, as the reader will have discovered, since the child is free to move from room to room, he will be equally free to miss a room where he does not feel comfortable. It is a disaster if a child should find the subject-matter attract while the subject-master repels. According to the plan, a child must eventually find his way even to the room where he finds little comfort, but he will creep, like a snail, unwillingly to it, and without that delight that should at all times characterise the acquisition of knowledge. Where the teacher has been relieved of the restriction and routine that accompanied so much of his work under the old plan, there is little reason why his attitude should not change and, rather than repel, should attract the child. This aspect of the teacher's work is touched upon here because it is the writer's conviction that autocracy and Daltonism can never go hand in hand. Any teacher, therefore, who contemplates working his school on individual lines must be prepared to bend, he must be prepared in fact to become the "big brother." This is true of every teacher on the staff, including the head. Head-teachers must Daltonise their staff if they desire the staff to Daltonise their classes.

Another social advantage is that which comes from continual co-operation in work. Personal service, mutual aid, and comradeship are no mere

terms where individual work has full play. A Dalton school becomes a social unit in ways that could never happen under the old system. The purpose of an elementary school referred to and stressed in the earlier pages of this book come nearer to fulfilment under this plan than under any other. Education for creative service was the key-note of the work of Sanderson of Oundle; it is also the key-note of work under the Dalton Plan. Let one illustration suffice. Where subject-rooms are established and children are free to go where they will, it follows that at any moment in any subject-room there may be children of all ages who work under the plan. That is to say, there may be representatives of Standard 5 working in the same room with representatives of Standards 6, 7, or Ex. 7. Nor are these segregated in the room. They are allowed to sit where they please. Frequently older boys have been seen sitting cheek by jowl with younger boys whom they assist when assistance is sought. Occasionally, younger boys have been known to assist the older ones. Here are co-operation and interaction of groups. On other occasions, particularly in Literature, where creative and artistic work, such as, for example, composing a poem, is attempted, boys work in pairs, or in small groups. Here is co-partnership. All this comes along in the ordinary course of the work, and is a perfectly natural development of it. In Mr. Norman MacMunn's words,[1] the children behave like boys rather than schoolboys. The Dalton Plan brings into school life the best features of adult life, and will enable a boy to function later, when he reaches

[1] See "A Path to Freedom in the Schools," Norman MacMunn, B.A. (Bell).

the life of the outside world, in a way that is desired of every one.

It is a little unfortunate that these social aspects of the plan have frequently been referred to in general terms as " the socialisation of education." " Humanising of education " would be a more correct way to describe them. The word " socialisation," which in this sense is an Americanism, carries in this country political suggestions which, unfortunately, make it unpalatable to many who would welcome the educational ideal for which it stands.

Professor Adams in his " Modern Developments in Educational Practice "[1] deals in the chapter on the Dalton Plan with this word. He points out that the word has a particular as well as a general meaning. In its general meaning it comprises in some aspects what has been pointed out in the paragraph preceding, but in its particular meaning it comprises what the Professor says it signifies in America, viz. " the correlation of education with the ordinary affairs of life, bringing the school into direct relation with the outside world." Dr. John Dewey, he says, has done much to promote this idea.[2] " But," says the Professor, " the moment we begin to explore this aspect of socialisation we get into troubled waters." Politics, he fears, will enter the school. Let it be said at once that the introduction of the hurly-burly of modern politics into the school would be a disaster of the worst kind. But apart from this (which it is no part of the plan to attempt to do),

[1] "Modern Developments in Educational Practice," by John Adams (University of London Press).

[2] See "School and Society," John Dewey.

the plan does provide a wide scope for practical living instruction in those attributes of character that go to the making of the highest form of citizenship. This after all, is what the Code insists on—it is one of the purposes of the elementary school—to develop the character. This is placed first. Is it not one of the complaints most often heard against the elementary school that it has but little relation to life ?

Miss Parkhurst gives the opinion of two American mistresses which are well worth quoting. One of them says :

" The denial of the creative impulse of the worker in the interests of cheap quantity production and the sharp class barriers erected between employer and employee have their counterparts in the schools of to-day. The adoption of the Dalton Plan after a period of academic and autocratic training might almost be compared with a return to the Medieval Guild System with democratic intercourse between master and apprentice, and respect for work as the corner-stone." [1]

The other says :

" If there ever was a time in the world's history when we needed people who could think and act independently now is the time. Much of the failure in present-day politics is due to the fact that politicians are the slaves of other men's opinions. A pupil who works on the Dalton Plan cannot help doing his own thinking. He must rely on his own resources, and surely that is what is expected of him in after life."

It is of interest to add to these the opinion of an English schoolmistress, Miss Bassett, B.A., of the

[1] See " Education and the Dalton Plan," Parkhurst (Bell).

Streatham Secondary School, where the Dalton Plan has been tried with success. In answer to her critics she says :

". . . One is justified in hoping that a change may be for the better, and that an education based upon freedom to choose and pursue the study that attracts when and where the student wills may assist us to grow into a nation competent to choose and pursue its own destiny, rather than one led by the voice of authority whether in the form of a ranting demagogue, a trumpery journal, a fashion plate or a phrase." [1]

It has been shown that educational efficiency is fostered, and, as the writer believes, well maintained by individual work. Social efficiency, by which is meant a training in a suitable environment for the highest type of citizenship, is fostered also.

[1] See "Education and the Dalton Plan," Parkhurst (Bell).

CHAPTER V

SOME DIFFICULTIES OF INDIVIDUAL WORK

It would be idle to pretend that individual work discovers no difficulties. The first and most obvious (although strictly speaking, such a being does not exist), is the so-called dull child. It must be remembered, however, that the number of children who are dull in everything is very few indeed. The weak ones must not be cast out. It ought not to be difficult to find out what will appeal to them, and so to organise the school that every boy, weak or strong, shall be able to make full use of his faculties. Experience goes to show that of six school subjects, the majority of the children can cope fairly well with three or four. This has been pointed out in earlier pages. Subjects like Geography and History present least difficulty; many boys, however, are delayed by Arithmetic and English. Drawing, in a few cases, is also a stumbling-block.

Under a system of class teaching, it is possible to hide these boys who are dull in certain subjects behind the "average" of the class. The moving forward or slipping backward of that average was the main anxiety of the teacher. The normal and the brighter boys were concentrated upon in order that the average might be maintained. The dull

boys were not even disclosed unless necessity compelled it, and, if they were disclosed, suggestions were made as to their mental capacity and the matter left at that. One consequence of this was, that these boys were always regarded as dullards in everything and, what was worse, came to regard themselves as such, and were content. This was disastrous. There was little to arouse them from this lethargic state. Another aspect of the same thing, though perhaps in a lesser degree, is to be seen in that type of school organisation which keeps children constantly divided into "A" and "B" groups. The damage done to these children is almost irreparable and nothing short of a huge blunder. To insist that a child shall pass through his whole school career in a "B" group is to invite him to label himself as an incompetent. "B" boys are often "A" boys in some subjects. Individual work tolerates nothing of this kind. A boy is taken for what he is, and for what he can do. Help is forthcoming for him when and where he needs it. The boy is dealt with as a patient and his trouble located. Miss Parkhurst says quite truly, that if a boy is not skilful in solving his difficulties he will become skilful in hiding them. The plan of individual work is of enormous assistance to the so-called dull boy. The average and brighter children go on by themselves with a minimum of help while much of the teacher's time is taken up in giving a maximum of help to the less able ones. The establishment of the adjustment-room was intended to make that help more easily available. It is not suggested that the dull boy is brought to light for the first time by any process of individual work. He was known under

any plan. The point here is that having discovered him the process of individual work will not allow him to be put on one side; it compels attention to him.

The slow child is in a different category; he is not dull; he is simply a plodder. All the same, he is a difficulty in the scheme. His average in all subjects is good, but he takes his time. There are naturally slow boys in every school under any system of work. But these are just the boys for whom the plan of individual work is designed. In fact, all children are slower at first. Instead of keeping in the marching-line with all his fellows, this boy sometimes falls back a little, but he has been marching all the time, and for that reason his position a little behind need furnish no cause for alarm. He may spoil that look of uniformity in the ranks which most people so much admire, but none can say that he has not covered the ground so far. To carry the simile a little further, the main concern of the teacher should be, not that he is a little behind, but that he does not step out of the ranks altogether either to pick flowers (not perhaps a grave offence) or to have a " mike " (a very grave offence). If the slow boy does his " possible " little more can be expected of him. The teacher may be able now and again to get the boy to make a spurt to catch up to the others, but he will not keep it up. On the whole, it is best to let him go plodding along, mastering as he goes every inch of the ground. An interesting case of a slow boy was the one referred to earlier, who insisted on taking the first round of the County Scholarship Examination. Had any discretion been allowed in the matter it is likely he would have been

advised not to enter for the examination. He did enter, and to the great surprise of every one concerned, he did well.

The shirker is quite another variety, and is a real difficulty. He, too, is found under any plan of work and is little affected by any fine designs. The best example of him known to the writer is the boy who, having had experience of both the class and individual systems, was asked to write an essay giving the advantages and disadvantages of each. He was told he might express himself quite frankly. This is what he wrote: "I much prefer the old system because you don't have to work while they talk to you about things you don't understand." This type of boy has baffled all efforts to get him to succeed, however fine those efforts were. To be candid, however, the number of those cases is exceedingly small—possibly not more than half a dozen all told. It is doubtful whether any plan—individual or any other—could be devised to meet that case. It is the moral outlook of these boys that needs changing. What, in effect, has to be done with them is to put them to work by time-table and scrutinise the work done, until they are fit to enjoy the liberty given to others. By that process, however, one proclaims at once the inefficacy of the plan of individual work, as ordinarily understood, to deal with them. These boys are non-workers—they shirk all subjects.

It sometimes happens that boys will do some of their subjects well, but attempt to shirk portions of subjects where reading is involved—with what results was shown in the chapter dealing with the assignments. Another instance may be added to

the one there given. The question in the assignment asked for a description of the inn in " The Deserted Village." One boy gave quite a good description of a modern country inn visited by him in company with his father when out for a walk. It showed, however, that the work set had not been done. It is easy to deal with this kind of shirking.

Questions are often asked as to " copying," and how far it is allowed. The implication of such questions usually is that copying is a real danger. Ideas of copying are sadly in need of revision. Where copying is tantamount to cheating it is undesirable to let it go unchecked. Beyond that it would be well if adults considered their own experience in this matter. To consult the best authorities on a subject, and even to copy paragraphs which throw light on the subject under discussion, with due regard to the obligation one is incurring, can hardly be confused with copying in the sense of cheating. It is the method of advanced study, and is to be encouraged rather than discouraged. Where boys work together in groups it is possible that their work may show traces of sameness, but it is equally possible that cheating—as the word is understood—did not exist at all, and that sameness may indicate the very opposite of cheating—it may indicate the result of a combined effort to get a right result. The school idea of cheating is a remnant of those days when children were regarded as potential thieves. That surely is the only explanation that can be offered of the practice in those days of slates when children were put back-to-back to work sums or write spellings. What the

principle of individual work now does is to foster the spirit of co-operative work in which cheating has no place.

Arising out of these difficulties is another, namely, the wide divergence between the times spent by various individuals in the completion of their assignments. Some boys will finish in less than the twenty days allowed, others will take longer, while the majority will finish round about the average time. It follows, therefore, that while most boys will be abreast of their work, and some even in front of it, there is a percentage that lags behind. It is not, as has been pointed out, that one desires a deadly uniformity, or even a hustle, but one does wish to observe a steady progress. Reference has been made to the " feed-and-speed " theory in industry, but it would be lamentable indeed if the principle of individual work became in any way associated with this theory. Where " racing " has occurred in the writer's school it has been stopped. The fact that a child does more work than he does under the old system is one of the discoveries of individual work, but any suggestion that the principle should be adopted to " squeeze " more work out of a boy should be strenuously fought. It is not a toll that is being demanded, but an opportunity that is given to develop personality and to use the time available to the best advantage. The following table sets out the position of all boys after eleven months' working, and shows the divergence pointed out above. Normally they should be approaching their 10th assignment.

Assignment.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	Totals.
Form 1, Std. 5	0	1	2	5	12	14	7	11	4	—	56
„ 2, Std. 6	1	0	0	2	4	5	9	5	4	3	33
„ 3, Std. 6	0	0	1	0	5	9	9	12	10	3	49
„ 4, Std. 7	0	0	0	0	3	2	11	10	2	1	29
„ 5, Std. Ex-7	0	0	0	0	0	1	4	2	6	—	13
Totals . .	1	1	3	7	24	31	40	40	26	7	180

The divergence is here pretty plainly shown. The table indicates other things also. It shows quite clearly that all children are slower at first, that later some remain slow, others push ahead, and that acceleration takes place later. It shows further the difference in ability of the different age-groups to tackle assignments. The figures on the left of the black line above the totals are negligible —one was a new boy and the other two had suffered from illnesses. If a line is drawn in the totals at assignment 5 it can be calculated that the percentage of boys who could not complete half a year's work in the eleven months is 20, the percentage of those working assignments 6, 7, and 8 (that is, the average) is 61·7, whereas the number working assignments 9 and 10 (the brighter children) is 18·3.[1] The number nearing the completion of the year's work in the upper classes is in striking contrast to that in the

[1] Compare these figures with those of the Departmental Committee on Scholarships and Free Places. See p. 58.

lowest class. Knowing, as he does, the real significance of these figures, the writer is able to say that the one boy in Form 5 who was working his sixth assignment was a lazy fellow, and the fact that so few in that form had entered the tenth assignment was due, as much as anything, to the fact that the majority of that Form being within a few weeks of leaving, were resting on their oars, and changed only when the shabbiness of their action was pointed out to them. At the completion of the school year the figures showed a striking difference in the last column in all classes with a corresponding advance, of course, in all the earlier columns. The above table is retained, however, because it shows so clearly the diversity of achievement. This wide divergence need cause no anxiety so long as every child is fully occupied with his work. Some of the slower ones in the lower classes frequently reach a point where they begin to make a decided advance —and keep it up.

One of the reasons for this wide divergence is that the younger boys have little idea at first of the right distribution of their time. Another cause is that the assignments are perhaps on the difficult side. The advisability of having a set of time-values such as that pointed out in the table of allocation of times to subjects is clearly seen. These suggestions as to how long should be spent on a unit of work may be given without interfering with the boy's freedom to do the work when and where he likes. At the risk of repetition it is stated again, that a unit of Geography or History or Drawing should occupy about 12 minutes or so, a unit of Arithmetic 36 minutes, and so on. Boys get to know these, and if they take

an inordinate amount of time over a unit's work in any subject they know they are falling behind. This does not mean that a boy does only one unit of work at a time ; he may do two, or three, or five consecutively. If the subject is Geography, five units of work should take about an hour. No boy, as stated earlier, works in this automatic fashion, and it is not desirable that he should ; but it is best for him to have some time-sense which will enable him to know whither he is tending. A definite and dead level of achievement is impossible.

The question is often asked, whether a boy should be allowed to finish one subject completely before starting another ? It is difficult to dogmatise about this, because with the brighter children it is a matter of little consequence. On the other hand, if it is allowed with the duller children, it has the effect of making the period between finishing a subject and coming back to it again on the next assignment rather long. Further, a weak boy who completes all his subjects but one, say Arithmetic (which is most frequently the case), and he finds that subject a bother, finds himself also faced with a long and boring task of doing something he doesn't much like—nothing, in fact, but his Arithmetic—till the work is completed. Experience has shown that a wise rule is that every boy be encouraged to attempt a little of each subject each week.

On the side of school organisation there are other difficulties. The worst in elementary schools is that of large numbers, and the consequent heavy burden of supervision of work that these numbers entail. The

difficulty is due less to the numbers than the supervision demanded. It is no exaggeration to say, that it matters little from the point of view of the principle of individual work *how many* are working the Dalton Plan at one time: it does matter, however, from the point of view of marking. It will be agreed, that children have a right to have their work properly looked over, and few children care to go on working without that work being seen by a responsible person. Obviously, where the numbers are very large this cannot be done, or expected, particularly in view of the fact that the output is larger, unless some special arrangement is made to get it done. This is the "marking" problem that arises in all discussions on individual work, and it will be discussed more fully in later pages. Secondary schools have an advantage over elementary schools in the matter of the number of children per teacher.

Another difficulty, associated more particularly with the inception of the plan, is that of settling down. The change from the class system, where everything was done for the child, to a system where a child has to think and work for himself is a great one, and it is too much to hope that all children will respond at once. Many of them do, but others will need guidance and supervision until they get into their stride. Experience shows again that it takes about six months to accomplish that result. The process will be repeated with every fresh accession of boys into the plan from the classes below.

In connection with the assignments there is the difficulty of the exact form in which they should

be presented to the child. At the risk of repetition the writer would point out that in some instances, the course is adopted of hanging up outside the subject-room a copy of the assignment, and asking children to make their own copies. This takes time, and may be inaccurately and sloppily done in many cases. Each child, as was previously pointed out, is entitled to a fair and clear copy of the work he is expected to do. This can be assured in two or three different ways—(1) by printing, (2) by cyclostyling or hectographing, (3) by typing and reproducing by a rotary machine. The first, in most schools, is not possible, the second is often unsatisfactory and takes too much time. The third method is practicable, economical in time, and does really meet the case. If standardised assignments in ordinary publisher's form are used, then neither of these methods needs to be considered. Whatever method of reproducing assignments is adopted, the task is a heavy one, and where classes are large and the staff small, it is unreasonable to ask teachers to undertake it. The drawing up of the assignments is in itself a sufficiently formidable task, to superimpose on that the physical labour of reproducing sufficient copies for a class, is to make unfair demands on the teacher's private time. Many teachers are prepared to give up time for this, but it is a monstrous thing to expect them to do it as a normal part of their daily work. In some cases the difficulty is surmounted by getting the reproduction done by the staff of the Local Authority, who generally have near at hand the means to enable them to do such work expeditiously. Where this can be done, the amount of work thrown on the teacher is very much

lessened. The work of making assignments being in itself heavy, unless some mitigation of the work of reproducing them be planned, they would most likely never be undertaken at all.

A word or two was said in earlier pages about the increased consumption of stationery under the plan of individual work, and it was pointed out that the increased cost is more than counterbalanced by the possible saving on the cost of text-books. That increased cost of stationery has to be faced whether or not there is any saving in the cost of text-books. The subject of text-books, under any plan of individual work, is one, however, that is extremely important. Broadly speaking, text-books used under the class system are scarcely suitable for use under the plan of individual work. There has always been an attempt on the part of publishers to " grade " books to correspond, as they think, with the attainments of different standards—a difficult enough task to carry out, and one not usually successfully accomplished. In History and Geography, particularly in the books for upper classes of the school, the attempt was out of place and was quite unnecessary. A syllabus covering a four years' course, as a plan of individual work can be made to do, hardly needs " graded " books so long as the books are written in a way that makes them cover the ground and makes them of service to young minds. To be quite fair, many modern History and Geography books, for example, the Piers Plowman Histories, or the Human Geographies (Philips'), are not compiled in this form, and are therefore eminently suitable in connection with individual work. It must be recognised,

however, that the vast majority of text-books are unsuitable for the purpose.

The objection to such books is well stated in a paragraph in Mr. MacMunn's "A Path to Freedom in the Schools." [1] He says:

"This necessary neglect of individuality has had the most deplorable effects, in that nine-tenths of the dynamic force of a school class has had to be sacrificed, that true individualised knowledge has been replaced by a sort of average mental food for which no natural boy has more than a weak and acquired appetite, that ten thousand opportunities for constructive development have been missed while we satisfied ourselves with dragging our pupils along roads not only repulsive to them, but leading to no goal of adequate personal achievement. Our very school books have till recently reflected this unimaginative contempt for the individual; and even now I notice that many boys tend to learn more from simple books written for adults than from text-books supposed to be adapted to their own needs—because the adult book usually contains a glimmering of that personal appeal which is nearly always wanting in the arid pages of school books."

What is wanted is a good supply of ordinary text-books in any subject, supplemented by good reference books, and books of a descriptive kind. There is, perhaps, little purpose to be served in criticising too severely the text-books now on the market, for the simple reason that enterprising publishers already see a need for change in this respect, and are adapting their publications to the new needs.

[1] "A Path to Freedom in the Schools," by Norman MacMunn, B.A. (Bell).

A remark was previously made about the need for a changed attitude on the part of the teacher towards the child. A teacher may give academic assent to the principle of individual work, while at the same time he may not be able to bring himself into the right relation with the child in order that the principle may have free play. That is a real obstacle to the working of the plan, but an equally, or even more, difficult situation is the position of the teacher who is sceptical about the whole thing. Subconsciously, he would " have his back up." In this case it is easy to see that no successful results could accrue from such an attitude, and if such scepticism persisted or became at all general it would be wiser to abandon the plan altogether. Children are notorious character-readers, and they discover very soon who the sceptics are. When that happens the plan if already adopted falls into ruins.

Often, however, such scepticism is due to a dislike of change rather than to any shortcomings of the plan. Teachers have always been used to the position of prominence in the classroom, and are often unwilling to withdraw from that position: they have had a big share of the limelight, and do not care to recede from it. It is not too much to say that they are often well " on the boy's back." To ask them to get off, or to ask them to recede to a less prominent, though by no means less important, place, is to ask a good deal of those who have been born and nurtured in tradition and convention. But this dislike of change shows welcome signs of giving way to the insistent demands that are being made (as it is believed) in the best interests

of the child ; and as these signs increase, the case for the principle of individual work, in common with that of other modern developments in educational practice, will be argued on its merits, and its best characteristics adopted.

CHAPTER VI

CRITICISMS AND OBJECTIONS

I

THE principle of individual work is criticised from many different standpoints and from various motives, and such criticism calls for an answer. The following are the chief lines along which criticism is directed.

1. The marking of the work.
2. Undue emphasis is laid on the printed page.
3. Possible danger of fatigue and eye-strain.
4. Possible lack of vocal practice and expression.
5. Supposed loss of social environment.
6. Possible loss of accuracy in Arithmetic.
7. Difficulty of oral lessons with pupils at different stages.
8. The "break" between the infants' department and the upper part of the senior school.
9. Undue strain on teachers.

1. *The marking of the work.*—"Marking" under any self-help plan does constitute a very real problem. When one considers the increased output in all subjects, the scope of the problem will be appreciated. The opinion definitely held by the writer is, that every boy is entitled to have his work

properly supervised. It is unfair, and often very dispiriting, to the child if this is not done. Some teachers choose the method of marking samples of work at random, but this seldom meets the case, and does not satisfy all children. Others look at all books and merely notify, but do not correct, errors. Under the self-help plan there is much to be said for this method because the actual correction of errors should be the child's task, the teacher being called upon only when the child finds real difficulty in correcting for himself. Others, again, like Miss Kate Rose,[1] who has been so signally successful in introducing into her school individual work, organise a system of "class-helpers" in order to get the work done. These helpers are girls who are well in advance with their work, and are therefore selected from time to time to supervise, and even advise, those girls who are less advanced. The method is reminiscent of the monitorial system of Bell and Lancaster. To the writer, this method has two evident drawbacks: (1) The advanced girl is herself liable to be held back; (2) the child who is supervised by the helper is liable to miss the wiser help of the more matured teacher. It is perfectly true that slower children are often held up by quite minor difficulties, which can be eased by the helpers without recourse to the teacher; but the writer holds the view that the teacher's best service is rendered to the weaker children. Still, Miss Rose finds the method successful, and it offers at least one method of solving the problem which is under discussion.

[1] Formerly Headmistress, Jewish Free School, Stepney, E. See Miss Rose's pamphlet "The Dalton Plan without Subject-rooms or Specialists" (Dalton Association).

A further point, when considering the question of marking, is as to how far the questions set in the assignments contribute to the marking trouble. It is possible to regulate very largely the quantity of marking that will fall upon the teacher by exercising great care as to the form of the question set. This is more particularly true of Geography and History. It is easily possible in either of these subjects to put questions that require very long answers to deal adequately with them. For example, "Give a description of the flora of Australia;" or "Write an account of Drake's voyage round the world." Either of these questions would be more appropriate to the English room where essays are asked for. On the other hand, what is chiefly required in the History and Geography rooms in elementary schools is to know that certain facts which may later be used significantly in connection with a fuller and living study of these subjects have been assimilated.

There are two main ways of getting the marking done. One is to organise the school in such a way that, as far as possible, sufficient time is placed at the disposal of those subject-masters who need it in order to get their marking done. The other is for the subject-master so to organise his marking as to make his burden as light as possible.

With regard to the first suggestion, it may be noted that, the greatest amount of marking occurs in the English, Literature, and Arithmetic rooms, and of these three the English room furnishes most, for, however much the master may seek to curtail, through the assignments, the amount of work to be done by the pupil, he has not the same scope for cutting down as other masters have. The reader

will have noted in the table of allocated times, that no provision is made for an oral lesson in English, and thus, at one stroke, five hours each week are made free for the English master in which to pursue his marking. Moreover, by combining classes for singing, drill, and so on, it is further possible to give him even more time, and also to provide some time for other masters. This, briefly, is what is meant by organising a school in such a way as to provide for the marking contingency.

But the subject-master must organise also. In the writer's school it is an invariable rule with the subject-master to see the exercise books in his subject of every boy at least once a week. Plainly, it is not possible to see them all at any one time, nor is it desirable to collect all the books at any one time. What is done is this: as there happen to be five forms of boys, the books of one form are asked for each day, for example, Form 1 on Monday, Form 2 on Tuesday, and so on. The boys get to know this, and prepare to carry out the arrangement. As each form averages about fifty boys, it is evident that each master must attend to the books of about twenty-five boys each session. This is, of course, a pretty formidable task, because each boy's book will contain a week's work in the subject. But it must be remembered that, in addition to the "off" time, which is made available for marking by organising the school, each master is at liberty to mark books during any part of the pupil's three hours' free study, when he is not otherwise engaged in helping to solve the difficulties of individual boys who come to him for assistance. This is as it should be, for it is highly desirable that the marking of

some books should be done in the presence of the boys to whom the books belong, and this can occur, generally speaking, only in school time. This method of marking has the additional advantage of enabling the subject-master to discover from week to week any boys who are falling behind with their work, or maybe, who are shirking it. In any case, the writer desires to point out quite clearly that, though the marking difficulty is a real one, it is not insurmountable, and the experience of his own school has shown that on the above lines, and with goodwill, the work is done very thoroughly.

A matter which will be of general interest is that in the upper classes, where, of course, the output of written work is greatest, the task of marking is easiest. This is due very largely to the fact that "spelling" presents little trouble. The increased amount of practice gained in writing and expression, and the consequent frequent recourse to dictionaries and other books, have their effect on spelling, and make the number of misspellings to be pointed out almost negligible. And this in turn makes the marking a simpler business. Spelling is nowhere in the upper school taught as a subject, it is absorbed, and the result is seen in the very much improved work

2 and 3. *Is undue emphasis laid on the printed page?* and *Is there possible danger of fatigue and eye-strain?*—The criticism of those who think that in individual work undue emphasis is placed on the printed page is urged mainly on two grounds: (1) that there is a possibility of sacrificing intelligence to information in the pupil; (2) that there may be undue fatigue and eye-strain.

The answer to the first point is, that the emphasis in self-help work is not so much on the information as on the person who procures it. In the past it has been the teacher who has done the research work and handed on the results of his labours in what have been called " pellets of information " to be dropped into the child's mouth. The aim now is to encourage the child to seek such information for himself after he has been put into such conditions as will enable him to pursue his search. It is conceivable that the process will make the child not less, but vastly more intelligent, and that is exactly what the writer's experience has been with regard to the boys in his own school. It is not a question of whether the boys are more fully informed or less intelligent; they are both better informed and more intelligent.

On the second point, it is not possible to be so certain. The experiment has not covered a sufficiently long period to enable physical results of so delicate a nature to be stated with exactitude. Whilst there may be a few cases where highly strung children suffer anxiety over the attempt to get work done—the number of these is small—there are dozens who are relieved of the irritation consequent on being held back. In any case, every child works more naturally than under the old system, and every opportunity is afforded them of changing their work if and when they desire to do so, a change which, it has been pointed out, usually takes place when fatigue arrives or when a task is completed, or merely if a desire for change is felt. Neither is it possible to say with certainty what is the effect as to eye-strain. The writer has, up till now, observed no ill-effects in this direction, and

there seems little reason to fear any dire results so long as children are supplied with clear copies of their work.

On the general question of the printed page, it may be said at once that Daltonians do not worship the printed page as such, but advocate its use as one medium of approach to the pupil. It is one method the Daltonians use for saying what they wish to say, where it is better to use this method than to say it verbally. It seems to be assumed in some quarters that Daltonians are so addicted to the printed page as to be credited with the belief that the greatest light is shed by the biggest volumes, and that that is one of the reasons for the stress laid on subject-room libraries. This is, of course, grotesque. They simply urge the use, as other people do, of those volumes which are likely to provide the light required and necessary at the time. After all, these critics have to be reminded that in post-school days the printed page plays a very large part —almost the whole part—in the lives of the vast majority of elementary school children—in further education. Newspapers, pamphlets, books are eloquent witness to this fact, and one of the virtues of any plan of individual work is that it enables the pupil rightly to select his reading.

4. *Possible lack of vocal practice and expression.*— There is much more point in the criticism that there is danger of a lack of vocal practice and expression. It must be remembered that in daily life vocal expression plays a much larger part in the lives of most people than written expression. "Reading maketh a full man, conference a ready man, and writing an exact man." There must be a place in

individual work for conference. But here, again, it is hardly a question of one *or* the other—the wise teacher will strive to cultivate both the ready and the full man. It is unlikely that any teacher will devote all the school hours to individual work. What is done in the writer's school has already been shown: three out of five hours and a half are devoted to free study. The main part of the remaining two and a half is devoted to oral work in some form or other. Suitable provision is thus made for the encouragement of vocal expression. It should be added, that periods of free study are themselves by no means periods of absolute silence. During the greater part of these periods masters are discussing with individual scholars the work that has been, or is about to be, done. And, when these discussions take place, it is remarkable at times how naturally and how easily boys can be got to talk, whereas these same children can often only with difficulty be got to speak before a class.

But other opportunities of vocal expression, besides these, should be created. Reading aloud, dramatisation, debate, are eminently desirable, and wise teachers will insist on providing opportunities for these. Children love drama, and although the argument for dramatisation as a potent force in education is outside the scope of this book, it may be stated that in the writer's school the utmost use is made of it. Quite recently a most successful performance of the outstanding scenes of "As you like it" was given in the school by boys all of whom were under fourteen.

The reader is strongly recommended to consult Mr. George Sampson's "English for the English"

(sections 1 and 2 of Chapter III.), on the importance of systematic training in spoken English.

The danger of lack of vocal expression is a very real danger, and, without doubt, anyone contemplating the adoption of any scheme of individual work would be well advised not to lose sight of it.

5. *Supposed lack of social environment.*—The criticism as to a lack of social environment where individual work is practised is an astonishing one. Were it not seriously made, one could only suppose it came from quarters where the plan had never been seen in operation. Where individual work is confined in its operation to one room, social environment plays perhaps a small part; but where the full Dalton Plan is applied, social environment is at its maximum—and it is social environment of the highest order. The direct social advantages that arise from the plan have already been indicated: freedom, absence of repression, co-operation, respect for work, and so on. All these flourish naturally, and are, so to speak, normal by-products of the plan. Children live and work under conditions such as we would wish them to have when they enter the life of the larger world outside. Mr. Clutton Brock [1] has reminded us that behind all educational theory there must be social theory. "We must," he says, "know what we wish society to be before we can know what we wish education to be: all ideas about education are based on ideas about society, even when no social theory is consciously expressed." Mr. John Eades,[2] who has in Leeds conducted his

[1] See "Two Views of Society and Education," by A. Clutton Brock (W. E. A. Handbook, 1918).

[2] Headmaster, Kirkstall Road School, Leeds.

school on the lines of individual work since 1918, says: "If schools are to be a training ground for service in after life, service to one another in schools must be one of the chief ideas in their minds as teachers." He adds that "The chief work of teachers is to put children in the way of gaining useful knowledge. The more teachers could be able to get children to do without them the more successful had they been." Dr. John Dewey[1] tells teachers, they may produce in schools a projection of the type of the society we should like to realise. It was one of the most notable of the *obiter dicta* of Sanderson of Oundle[2] that "schools should be copies in miniature of the world as we would love it to be." Now the practice of the full Dalton Plan in a school—and it is true in some degree of all schools where schemes of individual work are tried—comes very near to helping to realise all this. Mr. Richard Roberts in his chapter on Education and Democracy in the "Unfinished Programme of Democracy,"[3] says: "If we are to train the young for social life, the proper method is to surround them in childhood, so far as may be, with the conditions of the ideal life towards which we look." And he adds, "this naturally requires a considerable departure in *tone* from the conditions which still prevail. The pontifical and authoritarian tradition of the medieval school is still with us, and an attention is devoted to problems of discipline and order which is disproportionate to the real business of preparing for life in a democratic

[1] "Democracy and Education," by Professor Dewey, p. 370.
[2] "Sanderson of Oundle," p. 325.
[3] "The Unfinished Programme of Democracy," by Richard Roberts (Swarthmore Press). See the chapter on "Education into Democracy."

commonwealth, and is, to a great extent, from an angle and in a spirit alien to the purpose in hand." The adoption of the Dalton Plan does change the tone, and by affording continued occupation for every child reduces the need for attempting by direct and doubtful means to solve the problem of discipline. It induces a respect for work, and creates conditions of social environment in which the best elements of social life are cultivated. " Preparing for life " exactly describes what goes on. In an atmosphere of freedom one sees in place of competition co-operation and mutual aid. Esprit de corps becomes a bigger and more real thing and expresses itself in a love of learning and of the school which takes the place of that old distaste which boys in elementary schools used to show by their almost indecent haste to shake off the shackles when they had reached the age of fourteen. Their respect for work enables them to see how necessary becomes their own contribution to the welfare of the whole. Laughter, talk, absence of fear, and even a spirit of adventure all claim a place and are no mean contribution to the realisation of the conditions of that other world every one so much desires to see, and which teachers, more than anyone else, have in their power to create. There will be no break in such circumstances between school and life.

If these things are considered in the light of adolescent problems, such, for example, as the inability to do independent thinking, and the inability also to put leisure time to the best use; and if it is borne in mind that the vast majority of elementary school children receive no further instruction after they leave school—they assume an importance that

cannot be over-estimated. It has been shown in these pages that the Dalton Plan, rightly used, can and does train in the direction of independence of thought, and even in independence of conduct where that independence does not overstep the bounds of recognised rules. And there is little doubt that a child trained under this plan does become, as the American mistresses, previously quoted, suggest they would, accustomed to the habit of settling down to do definite jobs, after having been shown how to use such tools as will enable them to dig out truth for themselves. This is a great accomplishment and is claimed as one of the characteristics of the Dalton Plan. " You needn't waste your time at nights when you've got something to do,"—and it might be added, when you know how to do it.

A school run on individual lines, or under the full Dalton Plan, is no longer a barracks, it is a hive of industry. Every child is occupied and is contributing unconsciously his " possible " to the welfare of the whole. Though he is free, it is freedom within such limitations as are necessary to promote the best interests of all. He has respect for his neighbour, and understands that that respect does not diminish in the least the respect due to himself. Esprit de corps is no longer confined to classes, but belongs to the school as a whole. Though the writer confesses to a dissatisfaction covering a long period of service as an elementary teacher, with a great deal which characterises the old methods of school organisation, and though he realises with gratitude the advance that has been made in spite, as he believes, of the old conditions, and not because of any great virtues they possess, he desires, on the

other hand, to avoid reading into the Dalton, or any other plan, those qualities which he, in common with thousands of others, desires to see characterise the education of the future. He has chosen in illustration of his various points only those things that have come under his observation in actual practice. In running them over in his mind, he finds it difficult to believe that anyone who has seen the methods of individual work in operation in the schools could criticise them seriously on the ground of lack of social environment.

6. *Possible loss of accuracy in Arithmetic.*—The point as to possible loss of accuracy in Arithmetic is purely a question of fact. It is something that can be actually measured. If the criticism mean that the method of individual work may lead to slovenliness, the answer is that this might conceivably be the case under any method of work where supervision was slack. But as, in individual effort, the work of every child is closely scrutinised, there is no more reason to look for slovenliness under this plan than under any other. On the general question of accuracy, it needs only to be stated that no one more than the child himself delights in getting work right. To have it continually wrong is dispiriting and disappointing. Something more, however, needs to be said on the subject of Arithmetic itself, and further reference will be made to it in the section where the different subjects taken under the plan are reviewed.

7. *The difficulty of oral lessons with pupils at different stages.*—The next two criticisms are of a more technical kind. The fact that (as was shown in a previous table) boys are necessarily at different stages in their work, makes it difficult

for some observers of the plan to see how oral lessons can be satisfactorily carried on under these conditions. In actual experience the difficulty scarcely arises. For, to begin with, the oral lesson takes on a widely different character from the old set lessons of the class method. Oral lessons under the plan of individual work become very largely "conferences" in which some of the difficulties, and most of the work, of the assignments are discussed. This makes the lesson of real service, and is not mere "chalk and talk." Then it is well to remind ourselves that the implication of the criticism is that under a class scheme of oral lessons all children are presumed to be at the same stage of work. But is this true? Can one be sure that under the old class system children were all fit to receive the lesson that was about to be given? Experienced teachers know that this claim cannot be substantiated. The position is therefore scarcely different from that of the oral lesson under any plan of individual work. On the other hand, consider the case of the preacher or politician who desires to speak on any subject to his audience. Does either of them first inquire of his audience what is the stage of knowledge at which they have arrived? It may be true that either of them has a general idea of the intellectual standard of his audience which indicates how much further he may or may not try to carry them, but he certainly can never hope to have a uniformity of intelligence in his listeners. So it is with oral lessons under self-study methods. The children who listen to a lesson on a subject in which they have already worked, will be simply revising, while those who have not yet reached that point in

the curriculum will be more ready for the study of it when it occurs in their work. In any case, it is not a practical difficulty.

8. *The "break" between the infants' department and the upper part of the senior school.*—The point as to the break between infants' schools (that is after the age of seven) and the upper schools (that is from seven to fourteen years) is very pertinent. In most infants' schools some periods of school time are given up to some form of individual work; on the other hand, individual work of some kind finds a place in the upper classes of most of the senior schools. But there is the break between the two (that is between seven and ten years of age). This gap needs to be considered, and if possible bridged. Already it has been pointed out that it is possible to Daltonise some subjects in the lower classes (that is between seven and ten years of age) in order that the practice so given may enable children to function as responsible members of their age-group when they arrive at the period of full individual work; but something more is needed. Miss Molloy and Miss Brennan [1] have devised a card system which specially caters for juniors, and the plan has met with great success. Individual work, however, is in its infancy, and when its best features have been ascertained there is little doubt that something will accrue that can be adapted to all stages of school life.

9. *Undue strain on teachers.*—With regard to the last point of criticism, viz. possible undue

[1] Both of St. Peter's School, Milton Regis, Kent. See *Teachers' World*, Oct., 1922, and *Times Educational Supplement*, Nov. and Dec., 1922.

strain on teachers, it is early yet to dogmatise. The fact that teachers are considered at all is refreshing, for in some quarters the adoption of the plan of individual work is regarded as a soft option, and the line of least resistance. Against this, the writer may perhaps quote a remark of a distinguished visitor to his school. Surveying the great amount of marking that the work entails, he half-humorously remarked that he could imagine an increase in the number of teacher-suicides ten years hence. This indicates the impression created on the mind of one person by the amount of work involved, and indicates what is certainly true, that the plan is no sinecure. Between these two extremes there is the possibility of a mean. This mean may be found, so far as the marking trouble is concerned, by trying to organise the school to suit the work; but there is also the preparation of the assignments, and the ordinary accompaniments of school routine. At the same time, though the work is undoubtedly heavy, and the call upon the teacher's time and energy severe, there have been no signs of undue strain. On the contrary, there have been evident signs of real pleasure in the work, and no teacher, in the writer's school, has ever suggested a return to the old methods.

II

Such objections as have been urged against the plan of individual work are root-and-branch objections. Unlike the criticisms set out above—criticisms believed to be well intentioned by those who make them—the objections are such as to brook no

discussion at all. They are objections of a downright nature and almost defy answer. Two or three actual examples are given below. They are given in order that the reader may know of their existence, and consider them in the light of what has been set out in the foregoing pages.

In the Liverpool *Daily Courier* of October 20, last year, Sir Clifford Allbutt, speaking on psycho-analysis, is reported to have referred to the "mobbing" of this and kindred subjects by those least qualified to speak on them. "One fears," he said, "that something of this nature is happening with regard to the so-called Dalton Plan in education. It is being mobbed. Because the system has a fancy name and comes from America, teachers in all parts seem to be tumbling over one another in their haste to be in the fashion, irrespective of whether the size of the classes or the equipment of their school is such as to merit a trial of the experiment. The experienced teacher knows full well that his scholars welcome and quickly respond for the time being to any change in the ordinary curriculum, so that one reads with a smile the following report on the first day's working of a school on the Dalton Plan :—

"'There was an atmosphere of cheerful industry about. The boys seemed to be engrossed in the work on hand, and they gave one the impression that they wished to be left undisturbed so that they could go on with it.'

"It is easy to talk like that before the novelty of the thing had worn off; but what should we find three months later? Would it be so very difficult to find among those left undisturbed a few playing

noughts and crosses, or having sly dips into penny dreadfuls? The fact is, some of these education quacks have either forgotten or ignore their own experience of childhood, and imagine the real child as being capable of setting himself and carrying out a high standard of industry. In this connection, one is reminded of what Dr. Johnson said of his school-fellows. On being asked one day by his friend Langton how he had acquired so accurate a knowledge of Latin, he said: 'My master whips me very well. Without that, Sir, I should have done nothing.' Which seems to show that Dr. Johnson, in spite of his great intellect, was very sensible of how much he owed to his schoolmaster for keeping his nose to the grindstone at times when he was naturally inclined to be indolent."

There are no half-measures about that. The next example is to be found in the pages of the *Yorkshire Post* for February 3, 1923. It is part of a letter written to the editor of that journal by a "Leeds Headmaster." The editor had been admitting to his columns articles on the Dalton Plan, and reporting news of lectures given by Mr. John Eades in the North of England. Mr. Eades, it will be remembered, has adopted a form of the Dalton Plan since 1918. This is part of the letter (the other part relates to the teaching of English):—

"SIR,

"Viewed from the standpoint of a headmaster and the father of a family, recent articles in your columns on the introduction of the Dalton Plan of education into a Leeds school contain a great deal of high falutin nonsense. In stating this opinion, I claim to be as good an enthusiast as Mr. Eades, and quite as eager to promote

the real welfare of my pupils. I think the new method is based on an entirely wrong principle, and that by according to each child of eight years of age and upwards his full meed of so-called Dalton freedom, there is grave danger of his being turned into the world half-developed, unbalanced, neurotic, and lacking in self-control. Hence my refusal to join in the chorus of praise.

"It is a great failing in pioneers in a new educational movement that they seek to gain converts by deriding the existing system, and the individuals who refuse to follow their leadership. Mr. John Eades pretends to be condemning the present English system when he attacks a condition of things which he must know was dead and buried twenty years ago. You, sir, fall into similar error, for in criticising the old system you trounce the present system which finds universal acceptance, in most extravagant and unjustifiable language. You say, 'that the custom was (*i.e.* is) to impose upon a whole class a standardised quota of information, and the main result achieved for the brilliant child was (*i.e.* is) a stultifying of intelligence and a retarding of natural progress, and for the backward child the acquiring of a repulsion for anything termed educational.' Further, 'all children suffered (*i.e.* suffer) in varying degrees some repression of individuality.' Then you speak of the 'emancipation of the child from mass teaching, and from the tyranny of the time-table.' Those of us who know something of the elasticity, the freedom, and the consequent happiness that have been introduced into schools during the past twenty years feel the injustice of the foregoing remarks. There is no such thing as tyranny of the time-table, or of anything else, except that kind of tyranny which gives Mr. Eades liberty to experiment with his American Parkhurst plan, and Miss Mary Blackburn[1] of the same school, a like freedom to adopt her Italian Montessori system.

[1] Kirkstall Road School, Leeds.

"Credit is claimed for Mr. Eades that he so far anticipated Miss Parkhurst that in 1918 his top class was already working on an assignment system. That is nothing new. Head Teachers of Leeds have been doing similar things for years whenever they have had a top class to teach, and to supervise the school at the same time. So also have thousands of country schoolmasters who, having three or four standards on their hands, give instructions to one group while the remainder are silently pursuing their allotted tasks. Mr. Eades deserves commendation for experimenting with this idea, in which he apparently believes, by applying it to Standards 3–7. But my quarrel with him is that while it is at the initial experimental stage, when it is impossible to draw any reliable conclusions, he proclaims from the housetops a verdict wholly in its favour. Surely he should persevere quietly in his laboratory for a few more years before he can declare convincingly that he has found the sovereign remedy. . . ."

The third example is supplied by a young schoolmaster at present on the staff of a large secondary school for boys:

"I myself in common with many schoolmasters regard the Dalton Plan as highly dangerous to the cause of education. From the article[1] the impression might be gained that these new ideas are making great progress in the schools. The truth is that some Headmasters and Head-mistresses have adopted and continued the scheme with some appearance of success, others have tried it and found it a complete failure, while the great majority regard it with indifference as a passing whim.

"The ideal in education is neither too much control nor too much freedom. The Scylla of Medieval schoolmen doctrinaires had to be avoided, and since Rousseau

[1] *I.e.* an article by the author in the *Labour Magazine* (April, 1923) written by request.

there has been a movement steadily away from it, but the Daltonists are luring education into the Charybdis of Yasnaya Polyana.

"When boys are given their type-written assignments, and 'get on with their job,' they invariably set about it the wrong way. 'Quite so,' say the Daltonists, 'and learn by their mistakes.' This is, of course, the Heuristic method, and fortunately life is too short for human beings to learn the right only after trying the wrong and finding it wrong. Fortunately, I say, because the errors tend to persist and by their secondary impression conflict the correct—they weaken the latter. Take the case of languages. Ideal teaching here is direct instruction in correct forms. It is fatal to allow the child to wander in the wilderness of possible error, and to make for himself a hideous past of wrong spelling, crude phrasing, and loose expression.

"In oral work in Modern Languages, too, it is impossible, as I have found from experience, to teach children in the differing groups produced by the Dalton experiment.

"In general, the truth about boys is that they are savages. Their morals and interests are primitive, and the first necessity with them is discipline. They do not know, they cannot know, so well as older people what is good for them, and to give them perfectly free power of choice is to put ignorance above experience.

"The sound teacher always gives as much freedom to the child as is good for it. It is absurd to imagine that a modern well-trained teacher lectures. No skilled instructor talks all through a lesson, which is full, on the contrary, of questions and answers, and of later applications by the children of the knowledge gained in the earlier and smaller part of the time."

These objections, it will be seen, are candid in the extreme. There are some points, for example,

that relating to the teaching of modern languages, which are plainly matters of discussion and of adjustment. The writer offers no opinion here because the subject is outside the scope of an elementary school. He feels it right, however, to point out that in the Streatham Secondary School (Miss Bassett, B.A.) and at the Tiffen Boys' School, Kingston-on-Thames (Mr. T. Dean, M.A., M.Sc.) and at Queen Ethelburga's School, Harrogate, the matter has been found capable of very successful adjustment. But the dominant note of all three objections set out above appears to be a thorough disbelief in the power of a boy to control himself, or the use of his time. The writer's experience is entirely opposed to that contention. In support of this, the following remarks by a boy of twelve set out in the form of a letter, will give at any rate the boy's side of the matter, and the most effective reply to all three objections. The letter was written in the boy's exercise book of February 22, 1923, in response to a question in his assignment asking for his frank opinion on the Dalton Plan. It is reproduced exactly as written :

" I write this letter with the greatest of pleasure, for it gives me a chance of praising the best form of work which ever an English boy was given. The Dalton Plan, or system gives many advantages which I will put in the following order :

" 1. All the work has to be done no matter whether the student shirks, is absent, or for any other reason.

" 2. More work is done in the Dalton system than in the old one. I have filled over four English books, three literature, five drawing books,

two geography, and history books, and three arithmetic books.

"3. Anticipation. Any boy goes out with his chum at playtime, and the chum might say this: 'I say Bob, literature isn't half easy this month; we're studying so-and-so. I've got mine marked all ready.' Bob on hearing this makes a spurt and works harder so that he may arrive at the easy period in literature.

"4. A boy feels a sense of responsibility when at Dalton; he knows that all his work has got to be done so he works hard at it.

"5. Under the old rule no boy was allowed to talk to his neighbour and leaving his seat was a punishable offence. It is quite a common occurrence to see a boy rise from his seat, and come and ask for a pen or a dictionary.

"6. There is seldom any fear of a boy going home before his time, because when the bell goes, some boys are loth to leave their work (unluckily the majority of the boys are glad).

"There are disadvantages of Dalton as well as advantages, but generally only the backward boy feels these, I am sure, judging from what they say. I would not envy the inventor of Dalton could they get him in their clutches.

"All the advantages when put together and carefully looked into are found to arise not from the Dalton but from the boy who is doing the work.

"I think I have written enough to let you know what I think of this pleasant mode of work."

This is only one out of many such tributes from boys. One lad actually foreshadowed the establishment of the adjustment-room by suggesting that he thought "it would help the dull boys on if a room

was kept for them and they could get what help they wanted." He further suggested that play might be optional, and that it would improve Mr. X if he allowed boys to ask questions and offer hints. He added naïvely that he could find no fault with any other Dalton teacher, as they were "as good as can be expected."

CHAPTER VII

OTHER APPLICATIONS OF THE PLAN OF INDIVIDUAL WORK

AMONG the great virtues of the plan of individual work are its elasticity and adaptability. It is not, and was never intended to be, a rigid and cast-iron system that must not be tampered with, but a system capable of adaptation to all needs and all circumstances. It may be applied as a whole or in part. That is to say, it may be applied to a number of subjects, or to only one—to the whole school or to a part of it. Circumstances as to building facilities, staffing, and even the children themselves must be the determining factors. Experience shows that it is being applied very extensively to the upper classes of elementary schools either in all subjects that lend themselves easily to such treatment or to some of them. There is no uniform method. It has never been claimed for the principle, so far as the writer is aware, that it is suitable for all subjects in the curriculum, or for children of all ages. It is certainly not a panacea for all the ills of school life. Indeed, as already mentioned, subjects like modern languages in the secondary schools, where the voice is, and must be, an essential factor in the instructive process, are a case in point, but even with these, there is very much that children can do themselves.[1] In the

[1] See previous note on the Streatham, Tiffin, and Harrogate Secondary Schools.

report of a conference recently held at the Gipsy Hill Training College, Miss Stone of Queen Ethelburga's School, Harrogate, says that the Dalton Plan has made more effective her work in French on the direct method than it has ever been before, and that after three years' experience she warmly endorses the use of the Dalton Plan in the teaching of languages, as she has found it most successful. These subjects, however, do not detract in the least from the principle itself—they simply compel recognition of an obvious fact, and show quite conclusively that the principle cannot be applied to the same extent to all subjects alike, and that teachers must be guided by experience. The matter is less difficult in an elementary school, because of the number and nature of the subjects, than in a secondary school. The problem, however, does arise in the elementary school, particularly in the teaching of English, where the danger of a lack of vocal practice is a possible one. This matter, however, has already been referred to and need not be further discussed here. The point is simply that the principle of individual work is not claimed as the most suitable for all subjects alike and under every circumstance. The wise teacher has to decide for himself, taking all circumstances into consideration, how to arrive at and to preserve an equipoise between individual work (that is, learning) and teaching (that is, instructing). At the risk of repetition, it must be said again that in his wildest moment no Daltonian has wished to deride "teaching" or to see it suppressed. The teacher must teach, and includes, for that reason, oral work in his scheme. What the Daltonian wishes to see is that those

subjects that are for the most part best mastered by individual effort are allowed to be so mastered. It is contended that this is the true purpose of individual work, and when wisely guided, the child under this plan is able, not merely to be occupied, but to express his own individuality. On the other hand, the teacher, instead of having so much of his time and energy wasted with doubtful results, teaches when the necessity to teach arises.

It may be worth while here to suggest some modifications of the plan, and to show how the principle seems eminently suited to the upper end of small schools. Assuming that assignments of work are available, the following are suggested modifications :—

1. The simplest (and perhaps crudest) method of applying the principle is to set a whole class working at the same subject at the same time. This arrangement does not in any way alter the ordinary arrangement of the time-table or the class.

2. A development (of 1) is to allow children to work at different subjects at the same time. This arrangement again may not interfere with the time-table, but it does introduce the idea of freedom of choice. A child is allowed to this extent to work on the side of his interest at the subject that most appeals at the moment.

Though apparently easy, these methods of introducing the principle to a class are really difficult to carry out. In the first place, the teacher, whether the scholar takes the same subject, or different subjects, at any one time, is expected to be the expert in all subjects. In the second place, being regarded as an expert in all subjects, the teacher has a colossal

task imposed on him whether he prepares assignments of the type indicated in these pages, or whether he merely indicates work in a text-book to be done. If, for example, three subjects only are individualised, it means the preparation (and reproduction) of no less than thirty monthly assignments (if they are given monthly) per annum. If more than three subjects are so treated, the work increases in a corresponding ratio. It would appear, therefore, that though work can be individualised in this way, it points rather to the necessity of subject-rooms and specialists as the best course to adopt. Here, however, is another modification of the plan, but it presents a serious drawback.

3. There is the method of arranging the class in groups. If desks are arranged in blocks it is possible to allocate one block to one group for Arithmetic, another block to another group for Geography, another for History, and so on. In addition to allowing the children to select their own subject, this allows also freedom of movement from group to group if and when the pupil desires it. This method approaches very near to that of the full Dalton Plan. The difference lies in the lack of separate rooms, and the fact that the teacher remains the expert all round. This idea, however, makes the principle of individual work easily workable in an ordinary classroom. There are some supporters of the plan, like Miss Kate Rose, who prefer this method to that of the full Dalton Plan. And in this form it is worked in dozens of elementary schools with great success.

It would add very much to the comfort of the work if under this method of organisation desks could be scrapped, and collapsible tables and

chairs substituted. To many persons the rigid, unsightly and lumbering furniture that disfigures so many elementary schools is a reflex of the system of teaching which began to disappear when " payment by results " was abolished. They are almost the last relic of the paraphernalia of ecclesiasticism to be removed from the schools. Like the buildings in which they are placed they have up till now seemed almost to defy the ravages of Time. The schools of the future will doubtless be less dismal, less formidable in their outward appearance, and in their inside appointments be made a nearer approach to reasonable and home-like conditions. This is what the suggested use of subject-tables implies.

It can be seen that the ideal method of working the principle is that which Miss Parkhurst recommends, and adopts in her own school. It is the method the description of which has occupied the previous pages and need not detain the reader further except to emphasise the fact, that in addition to interest, freedom, and the subject-room (or subject-table) there is the specialist.

The writer's experience of small schools leads him to express the belief that there is no more favourable ground for experimenting with individual work than these schools afford. Nor is the help it gives anywhere more needed than it is here. The schools he has in mind are those schools where the total number on the register is anywhere between 30 and 100. Of these schools, there are thousands up and down the country. Usually the staff is small—perhaps a head with an assistant, or a head and a couple of helpers. Their time is occupied to the full.

The pupils of these schools may, generally speaking, be roughly divided into an upper and a lower section. Obviously, from what has been said already, no attempt would be made to introduce a fully organised scheme of individual work into the lower end of these schools, but with the upper school it would appear to be the soundest wisdom. Indeed, as the Leeds headmaster who wrote to the *Yorkshire Post* suggests, it is already done in very many of these schools out of sheer necessity. But there still remains in these schools an attempt to classify the children by standards. The upper school in many of these cases consists of no more than 15 to 30 pupils. It has always been a source of wonder to the writer how these standards are arrived at—it must be an enormously difficult task. What really decides whether a child is Standard 5 or Standard 6? Where it is possible in larger schools to send, say, 50 or 55 children into one room, it is possible also to detect some sort of "average" which forms a guide to classification, or it may be done on an age basis. But when the numbers are as restricted as they are in a small school, what is the deciding factor? A child may be of Standard 5 grade in two subjects but Standard 6 in all others. Standard 6 children may be Standard 5 grade in one subject and Standard 7 in all others. What really decides it? The writer has in mind a small school he visited recently where he saw one child in Standard 5, four in Standard 6, and three in Standard 7. The school, including infants, had 40 on the roll. Is Arithmetic the deciding factor? The writer knows of one large school where this was the case, with the result that more than half the

school was in Standards 2 and 3. The problem seems to be very much the problem of the examiner, who tries to decide, when marking papers, whether he will give 16 or 18 marks out of 20, and finally decides, for no apparent reason, to give 17. It is an impossible task. Similarly, it is almost impossible to draw a definite line with children, and to say that one child is entirely below that line and another entirely above.

Why not cut the painter and decide that the best course in such circumstances is to provide, in the upper part of a small school (and, as the writer believes, also in larger schools), a four years' course of work in those subjects where the principle of individual work would most easily apply, and run the school accordingly? The following, taken from the supplement of *The Schoolmistress* of December 28, 1922, illustrates the need for assistance in this matter that exists in small schools.

Enquirer 753 asks:

"Will you kindly give me some help in drawing up a scheme of work and time-table for an upper group of 25 children in a rural school? There are six children in Standards 5 and 6, ten in Standard 4, nine in Standard 2, and three Standards, 2, 3, and 4, are backward and need much attention, consequently Standards 5 and 6 must work alone. Number of children on the roll forty. Staff: Headmistress and supplementary assistant."

Answer (over the signature of "A. M. D."):

"For a scheme of work and time-table to suit the six children admittedly able to work alone consult our Outline Scheme published October 6, 1921, entitled 'Private Study Top.' This leaves you with nineteen

children requiring much attention. Please sweep standard classification out of your mind: most assuredly you will not miss it with the little group of youngsters you are educating; moreover, you may bring joy to your inspector's heart by proving to him he has at least one teacher in his district able to throw off the trammels of time.

"Here is a bold suggestion: Organise the whole of your group on individual lines. Before doing it, if you want to read some inspiring experiments in individual training, buy the 1922 January number of the *New Era in Education* (1s.). It relates the experience of about a dozen schools of various types, including London County Council departments, doing experimental work in this direction. Do not be disheartened by the results of a preliminary trial—the writer nearly gave up in the first month, convinced that the older methods were sounder and better, but discovered later that it was her own organisation which was chiefly at fault. When we come to remember the number of years during which the chalk and talk method of instruction has been in vogue, and how the aim and object of our lives has been to do things for the children to prevent their making mistakes—instead of looking upon education as a road of self-discovery and self-effort—we realise the probability of a little chaos at the breaking up of the old ways and the setting up of the new.

"The new way is experimental for teachers and taught, and therefore many of the preliminary mistakes are due as much to the former as the latter. We find our teaching selves have become folded into creases (definite lines of thought and action under given stimulus), and our thoughts will still tend to turn back into mind-lines of least resistance at the first opportunity.

"Has the experiment so far proved its worth? Emphatically yes, both in increased power and application and zest for work on the part of the children, and

in the transformation of the simple teacher into the wider educationist.

" Until you have proved the value of the method for yourself, make out a fairly ordinary time-table, shunning only mosaics and remembering that simplicity of organisation is the keynote to success and the enemy of muddledom . . ." (then follow some details as to subjects).

Some such bold course as this would have obvious advantages: (1) The niceties of classification, other than on an age basis, would disappear; (2) grouping together of all ages, except on suitable occasions, would be obviated; (3) every child would normally cover the four years' course, or as much of it as he was able to do; (4) all the other advantages of individual work which have been enumerated already—for example, working at one's own rate of speed, taking the subject that most appealed at the moment—would accrue.

The difficulties of such an arrangement, though very real, are such as to be easily capable of adjustment. It would be unreasonable, if not unfair, to expect that the director of such small schools as have been referred to, whose time is so fully occupied in the actual work of the school, should undertake the task of drawing up and reproducing assignments. Yet there are dozens of such directors who would welcome the opportunity of applying the principle of individual work if the assignments could be ready for them, or if some guidance, at least, could be given in the matter. Something was said in a previous chapter about the standardisation of assignments, and though one realises to the full that, in their ideal form, assignments are the expression

of a personal relation between the teacher and his pupils, and that standardising is not the highest educational wisdom, yet, taking into account the circumstances and restricted opportunities of such schools as are being discussed here (and some larger ones too), one feels that a fairly strong case is presented for these schools to claim whatever help standardised assignments might afford. If the principle of individual work is right and sound, it would seem a pity that its chances of operating in any school should be nullified merely on the grounds hinted at above. It is in this spirit, therefore, and with the intention that they may be of real service, that such assignments as have been proved successful in at least one school are offered for use or guidance. It is not impossible for an average teacher so to familiarise himself (or herself) with such of them as may be of service as to enable that relation between teacher and taught to be established which, it has been pointed out, is the right relation between the teacher and the child.

The assignments referred to are published by Messrs. Philip and Son, 32 Fleet Street, E.C. 4, and cover a four years' course in each of six subjects. They are contained in little books (one for each year in each subject) and can be had at 8*d*. each.

CHAPTER VIII

(*a*) SYLLABUSES OF WORK; (*b*) SPECIMENS OF TESTS; (*c*) LIST OF BOOKS USED

IT is considered appropriate at this point to give the actual syllabuses of work in each subject used in the writer's school for each of the four years. It will be noted that these syllabuses start at the point normally considered as Standard 5. It is important to point this out because it might be objected that some of these syllabuses start at a point that makes the course appear to be uneducational. For example, in Geography, the work starts with the countries south of the Equator. In History, with the Tudor period. But it must be remembered that the individual work, breaking into the syllabus, as it does, at Standard 5, shows nothing of the work that has already been done in Standards 3 and 4. For instance, in Geography, England has already been treated in the lower classes, and comes up for fuller treatment in the assignments of the last year. Similarly, early history has been covered, and the work is taken up on individual lines at the Tudor Period. It has not been felt necessary to give the syllabus in each subject for the whole of the standards.

The tests reproduced are those given at the first and last of the examinations that every boy took

during the Dalton year. They are given solely to show the nature of the ground covered.

The list of books is given, not because all the books are the most suitable for the purpose, though many of them come in that category, but because they were the books in stock at the time the experiment was started. It is one of the claims of the self-help plan that no special equipment is required. It will be observed that good use is made of odd copies of books.

SYLLABUS OF LITERATURE *

CONTRACT I. (FIRST YEAR)

Assignment:

1. STUDIES IN METRE—
   - † A Boy's Song (*Hogg*).
   - † Nod (*Walter De la Mare*).
   - The Prodigal Son.
   - The Good Samaritan.
2. NARRATIVE POEMS—
   - † Lord Ullin's Daughter (*Campbell*).
   - Lucy Gray (*Wordsworth*).
   - The Pied Piper (*Browning*).
3. THE HEROES (*Kingsley*)—
   - The Story of Perseus.
4. NATURE POEMS—
   - † The Earth (*Stopford Brooke*).
   - † Hiawatha's Childhood (*Longfellow*).
   - The Kitten and the Falling Leaves (*Words worth*).

* The syllabuses of Literature were drawn up by a member of the staff—Mr. F. M. Moore, B.A. (Hons. English), London University.

† Memory work.

5. STORY FROM SHAKESPEARE—
   The Merchant of Venice.
6. POEMS OF IMAGINATION—
   † The Forsaken Merman (*M. Arnold*).
   † Silver (*W. De la Mare*).
   The Fly (*W. De la Mare*).
7. THE KING OF THE GOLDEN RIVER (*Ruskin*)—
   † Passage dramatised.
8. NARRATIVE POEMS—
   † Play the Game (*Newbolt*).
   † The Dead Warrior (*Tennyson*).
   A Legend of Bregenz (*Procter*).
   The Pilgrim Fathers (*Mrs. Hemans*).
9. STORY FROM SHAKESPEARE—
   The Tempest.
   † Two songs of Ariel.
10. REVISION.

SYLLABUS OF LITERATURE

CONTRACT II. (SECOND YEAR)

Assignment:

1. THE BALLAD—
   The Revenge (*Tennyson*).
   The Relief of Lucknow (*Tennyson*).
   † The Last of the Eurydice (*J. N. Paton*).
2. THE HEROES (*Kingsley*)—
   The Argonauts.
   The Story of Theseus.

† Memory work.

3. NATURE POEMS—
   † The Throstle (*Tennyson*).
   † The Daffodils (*Wordsworth*).
   The West Wind (*Masefield*).
4. STORY FROM SHAKESPEARE—
   As You Like It.
5. GULLIVER'S TRAVELS (*Swift*).
6. NARRATIVE POEMS—
   How they brought Good News from Ghent to Aix (*Browning*).
   † The Loss of the Royal George (*Cowper*)
   The Enchanted Shirt (*John Hay*).
7. THE WATER BABIES (*Kingsley*).
8. STORY FROM SHAKESPEARE—
   Macbeth.
9. BALLADS—
   Johnnie Armstrong.
   † Sir Patrick Spens.
   King John and the Abbot of Canterbury.
10. REVISION.

SYLLABUS OF LITERATURE

CONTRACT III. (THIRD YEAR)

Assignment:

1. NARRATIVE POEMS—
   † The Destruction of Sennacherib (*Byron*).
   Lochinvar (*Scott*).
   Study of the simile.

† Memory work.

2. The Journal of the Plague Year (*De Foe*).
3. Nature Poems—
   † Autumn (*Shelley*).
   The Wind in a Frolic (*Wm. Howitt*).
   Tewkesbury Road (*J. Masefield*).
4. Macbeth (Scenes from the play).
   † Section dramatised and passages learned.
5. Narrative Poems—
   The Highwayman (*Noyes*).
   Fidelity (*Wordsworth*).
   Study of the metaphor.
6. Treasure Island (*Stevenson*).
7. Sea Poems—
   † A Sea Song (*Cunningham*).
   † The Sands of Dee (*Kingsley*).
   Chorus of Home Coming Ships (*Austin*).
   The Shell (*Tennyson*).
8. Julius Cæsar (Scenes from the play)—
   † Section dramatised and passages learned.
9. The Talisman (*Scott*).
10. Revision.

SYLLABUS OF LITERATURE

Contract IV. (Fourth Year)

Assignment:

1. Sea Poems—
   † Sea Fever (*Masefield*).
   † Psalm cvii. verses 23–30.
   † The Shipwreck (*Byron*).
   The Loss of the *Birkenhead* (*F. H. Doyle*).

† Memory work.

2. PILGRIM'S PROGRESS (Part I.).
3. THE SONNET—
   † Sonnet composed on Westminster Bridge (*Wordsworth*).
   † Milton's Sonnet on his Blindness.
   The Batsman's Art (*Edmund B. V. Christian*).
   A Football Player (*Edward Cracroft Lefroy*).
4. THE CHIMES (*Dickens*).
5. THE DESERTED VILLAGE (*Goldsmith*). Extracts.
6. MORTE D'ARTHUR (*Tennyson*)—
   † Passage.
7. AS YOU LIKE IT (Full Text).
   † Passages dramatised and memorised. (Two months' work).
8. GRAY'S ELEGY—
   † Passages.
9. REVISION.

SYLLABUS OF ENGLISH COMPOSITION AND LANGUAGE *

CONTRACT I. (FIRST YEAR)

Assignment:

1. The sentence: to write sentences.
   The use of the capital letter.
   Letter writing: to address an envelope; to write dates.
   Composition.

* The syllabuses of English Composition and Language were drawn up by Mr. W. R. Arnold, Second Master.

† Memory work.

2. Letter writing.
   Direct speech, use of quotation marks, broken quotations.
   Kinds of sentences.
   Use of quotation marks.
   To write a story from a picture.
   Composition.

3. The apostrophe.
   Letter writing.
   Subject and predicate.
   Composition.
   Homonyms (1).

4. Nouns.
   Homonyms (2).
   Verbs.
   Letter writing.
   Composition.

5. Pronouns.
   Adjectives.
   Subject and predicate.
   Letter writing.
   Composition.

6. Adverbs.
   Pronouns, verbs, adjectives, adverbs.
   Direct speech ; indirect speech.
   Letter writing.
   Composition.

7. Nouns : common and proper.
   Homonyms (3).
   Singular and plural number.
   Composition.

8. The apostrophe.
   Antonyms.
   Verbs.
   Composition and letter writing.

9. The copula.
   Pronouns ; personal.
   Agreement of verb with subject in number.
   Letter writing and composition.
10. Punctuation exercises.
    Homonyms (4).
    Conclusion of letters.
    Composition.

SYLLABUS OF ENGLISH COMPOSITION AND LANGUAGE

CONTRACT II. (SECOND YEAR)

Assignment :

1. Capital letters ; the apostrophe ; the comma.
   Statements, commands and questions.
   The sentence.
   Subject and predicate.
   The verb.
   Enlargement of subject ; extension of predicate.
   The noun : common, proper, abstract.
   Punctuation exercises.
2. Punctuation exercises.
   Direct and indirect speech.
   To write addresses.
   Abbreviations.
   Adjectives ; adjectival phrases.
   Composition and letter writing.
3. Adverbs.
   The wrong use of adjectives for adverbs.
   Common errors.
   Adverbial phrases.
   Affirmative and negative statements.

Single and plural number.
Subject and predicate.
Homonyms (1).
Composition and letter writing.

4. Pronouns: personal, singular, and plural.
Agreement in number of verb with its subject.
Past and present tense.
The copula; predicate adjectives.
Common errors.
Abbreviations.
Nominative and objective case.
Composition and letter writing

5. Adjective clauses.
Relative pronouns.
Adverb clauses.
Similes.
Gender.
Conjunctions.
Composition.

6. Active and passive verbs.
Homonyms (2).
Antonyms (1).
Synonyms (1).
Composition.

7. Adjectives.
Antonyms (2).
The apostrophe.
Synonyms—adjectives (2).
Common errors.
Agreement in number of verb with subject.
Composition and letter writing.

8. Present, past, and future tense.
Descriptive phrases.
Synonyms—verbs and adjectives (3).
Antonyms (3).
Composition and letter writing.

9. Punctuation exercises.
Abbreviations.
Synonyms (4).
Descriptive phrases.
The apostrophe.
Relative pronouns.
Common errors.
Direct and indirect speech.
Composition.

10. Irregular plurals.
Agreement in number of verb with subject.
Direct speech.
Interjections.
Adverbs.
Adjectives.
Descriptive phrases.
Composition and letter writing.

SYLLABUS OF ENGLISH COMPOSITION AND LANGUAGE

CONTRACT III. (THIRD YEAR)

Assignment:

1. Subject and predicate. Revision.
Direct and indirect speech.
Synonyms (1).
Collective nouns.
Broken quotations.
Composition.

2. Punctuation.
Descriptive phrases.
Broken quotations.
Antonyms (1).
Composition and letter writing.

3. Adjectives, qualitative, quantitative, and demonstrative.
   Adjectival phrases.
   Adverbs of time, place, manner, and degree.
   Abbreviations.
   Adverbial phrases.
   Composition.
4. History of our language.
   Latin roots and prefixes.
   Agreement of subject and predicate in number.
   Composition.
5. Irregular and uncommon plurals.
   Past, present, and future tenses.
   Abbreviations.
   Composition and letter writing.
6. Adjective clauses.
   Correct order of words and clauses.
   Relative pronouns.
   Adverbial clauses.
   Gender.
   Composition and letter writing.
7. Synonyms (2).
   Punctuation exercises.
   Comparison of adjectives.
   Comparison of adverbs.
   Simple business transactions.
   Composition and letter writing.
8. Latin roots.
   Latin prefixes.
   Descriptive phrases.
   Tense exercises.
   Synonyms (3).
   Simple business letters.
   Postcard writing. Composition.
9. Antonyms (2).
   Agreement of subject with predicate.

Relative pronouns.
Adjectives.
Telegrams.
Simple business transactions.
Composition.

10. Correction of faulty statements.
Latin roots.
Direct and indirect speech.
Telegrams.
Composition.

SYLLABUS OF ENGLISH COMPOSITION AND LANGUAGE

CONTRACT IV. (FOURTH YEAR)

Assignment:

1. Scholars' magazine.
Subject and predicate.
Subjects joined by "and," "or," "nor."
Latin roots.
Punctuation exercise.
Subjects joined by "as well as," "together with." "in addition to."
Each and every.
Composition. Letter writing.

2. Synonyms (1).
Antonyms (1).
Correction of errors.
Direct and indirect speech.
Abbreviations.
Latin roots.
Incomplete expressions.
Composition and magazine writing.

3. Agreement of verb with subject.
Punctuation exercises.
Past and present tense.
Descriptive phrases.
Latin roots.
Homonyms (1).
Composition and magazine writing.

4. "I" and "me."
Abbreviations.
Telegrams.
Postcards.
Latin roots.
Punctuation exercises.
Homonyms (2).
Composition, magazine and letter writing.

5. Synonyms (2).
Pronouns: subjects, and after "is" and "was."
"Who" and "whom."
Relative pronouns.
Synonymous phrases.
Simple business letters.
Correction of errors.
Homonyms (3).
Composition, magazine and letter writing

6. Adjectival clauses.
Latin roots.
Antonyms (2).
Punctuation exercises.
Direct and indirect speech.
Simple business letters.
Abbreviations.
Composition, magazine and letter writing.

7. Adverbial clauses.
Homonyms (4).
Telegrams.
Relative pronouns.

Envelope addressing.
Comparison; the use of the word "other" after the positive and comparative degrees.
Direct and indirect speech.
Descriptive phrases.
Composition, magazine and letter writing.

8. Broken quotations.
Antonyms (3).
Past and present tense.
Correction of errors.
Synonyms (3).
Punctuation exercises.
Simple business letters.
Composition, magazine and letter writing.

9. Enlargement of subject and extension of predicate.
Agreement of verb with subject.
Past and present tense.
Masculine and feminine gender.
Synonyms (4), antonyms (4), and homonyms (5).
Correction of errors.
Simple business letters.
Abbreviations.
The apostrophe.
The exclamation mark.
Composition, magazine and letter writing.

10. Antonyms (5).
Words derived from Latin.
Postcards.
Simple business letters.
Telegrams.
Composition, magazine and letter writing.

SYLLABUS OF GEOGRAPHY [1]

CONTRACT I. (FIRST YEAR)

Assignment:

1. AUSTRALIA—

   Position, surface and extent; natural divisions; section across from W. to E.; climate, winds, temperature, and rainfall; vegetation—six types.

2. AUSTRALIA (*continued*)—

   Economic study of Australia—wool, meat, gold, wheat, fruit; population compared with British Isles; chief towns; study by pictures of many sides of Australian life; test map.

3. NEW ZEALAND—

   Position, "Antipodes," surface and extent, Canterbury plains; climate—winds, temperature, rainfall, vegetation—temperate forests and grasslands, gums, ferns.

4. NEW ZEALAND (*continued*)—

   Economic study of New Zealand—wool and meat trade; graph showing rise of trade in these two; population compared with British Isles and Australia; chief towns; study of pictures; drawings of New Zealand shepherd and Maori house; test map.

5. AFRICA—

   Position, surface, extent, rivers, lakes; climate—winds, temperature, rainfall; vegetation—tropical forests and grasses, deserts, etc.

[1] The syllabuses of Geography were drawn up by the Geography master, Mr. H. B. Priest.

6. AFRICA (*continued*)—

Cape to Cairo railway—map; study of economic products; population, study of pictures of African life.

7. SOUTH AMERICA—

Position; detailed study of rubber; tropical forests; Amazon river and basin; Andes mountains; Argentine and meat; Pampas plain.

8. SOUTH AMERICA (*continued*)—

Argentine wheat—time of harvest and why; map of South America; Panama Canal—section across same; coffee, cocoa, sugar—where grown and why.

9 BRITISH ISLES—

Position, climate—rainfall, temperature, winds, surface, section across; continental shelf; tides, and Gulf Stream.

10. BRITISH ISLES (*continued*)—

The bread lands; fish, continental shelf, Dogger Bank; chief coalfields and industrialism; railway routes.

SYLLABUS OF GEOGRAPHY

CONTRACT II. (SECOND YEAR)

Assignment:

1. EUROPE:

Position, structure and surface; three natural divisions; section across Scandinavia; great European Plain; fold mountains of South Europe—section across.

2. EUROPE (*continued*)—

Further study of fold mountains; tunnels through Alps; climate—winds, temperature, rainfall; three types of climate—maritime, continental, Mediterranean.

3. EUROPE (*continued*)—

Detailed study of vegetation—tundras, broad-leaved forests and meadowlands, steppe or grasslands; Mediterranean type of vegetation; desert and semi-desert; north limit of palms, vines, cereals.

4. EUROPE (*continued*)—

Population—where dense and scanty—reasons; economic study—non-productive areas, agricultural and industrial areas; France, Norway, Sweden, and Denmark in more detail.

5. EUROPE (*continued*)—

Switzerland in detail—terrace farming; Holland and Belgium—dense population; Russia—wheat growing compared with other lands.

6. EUROPE (*continued*)—

The Rhine—the great street—its natural divisions; map showing two great railways across Europe; map of Black Earth region; study of pictures and concluding questions.

7. NORTH AMERICA—

Taken as a whole; position, surface, extent; natural divisions; climate—Japan current, Labrador current; vegetation; economic study; population.

8 UNITED STATES OF AMERICA—

Cotton—New Orleans, River Mississippi; Prairie—pigs and maize; Chicago; tobacco;

Californian fruit valley; fall line towns, New York.

9. CANADA—

Wheat—Winnipeg; timber and tundras; fur lands of Canada; maple sugar; salmon-canning industry.

10. CANADA (*continued*)—

Niagara Falls—section of same showing rock layers, gorge, water power; Newfoundland Banks, fogs; Canadian Pacific Railway; Grand Trunk Railway; questions.

SYLLABUS OF GEOGRAPHY

CONTRACT III. (THIRD YEAR)

Assignment:

1. AUSTRALIA—

Position, surface, and extent; climate—temperature, winds, rainfall; vegetation; economic study; population chief towns.

2. NEW ZEALAND—

Position; Antipodes; routes to New Zealand; surface and extent; climate compared with that of British Isles; vegetation; economic study—graph of wool and meat trade; population and chief towns.

3. CANADA—

Position, surface, and extent; three natural divisions; climate, rainfall, temperature, and winds; part below freezing point in January; Japan current, Labrador current, Newfoundland Banks and fogs.

4. CANADA (*continued*)—

Vegetation, tundra, coniferous forests, prairie; timber trade; economic study, population; chief towns; Canadian Pacific Railway and Grand Trunk Railway; pictures of elevator.

5. INDIA—

Position, surface, and extent; three natural divisions; map; climate—monsoons; questions on climate.

6. INDIA (*continued*)—

Vegetation—tropical forests and grasses, and deserts; economic study; population compared with that of British Isles and world population; chief towns; questions.

7. EGYPT—

Detailed study of River Nile—floods, etc.; vegetation; population; detailed study of the Suez Canal; pictures; questions.

8. SOUTH AFRICA—

Series of questions and exercises on climate, population, vegetation, etc.

9. RHODESIA AND JAMAICA—

Reading matter in connection with each. Notes on position, surface, climate, vegetation, population; economic study; questions.

10. SMALLER PARTS OF THE BRITISH EMPIRE—

Places which lie on important trade routes—

(*a*) Mediterranean and Suez Canal.
(*b*) Cape route.
(*c*) Cape Horn route.
(*d*) West Indian and Panama route. Questions

SYLLABUS OF GEOGRAPHY

CONTRACT IV. (FOURTH YEAR)

Assignment:

1. GENERAL WORLD GEOGRAPHY—
   The earth as a globe—size, shape, origin, gravity, poles, equator, etc. The earth as a planet, solar system, day and night, rotation and revolution.
2. The seasons, latitude and longitude, projections, conical, mercator, etc.; questions.
3. Surface and structure of the earth, sedimentary rocks, land forms, volcano, fold mountains, rift valley; widening of a valley, scarped ridge, fiord; temperature causes affecting climate; isotherms; questions.
4. Atmospheric pressure and winds, isobars, cyclones, and anticyclones; ocean currents; rainfall, relief rains, convection rains, cyclonic rains; questions.
5. Climatic regions of the world—ever-hot and ever-wet regions, summer-rain regions, maritime, continental, Arctic, and Mediterranean regions; vegetation regions of the world.
6. Effect of rotation of the earth on our winds; windbelts of the world; position of chief desert and tropical forest areas; rainfall types; animal life of the world; peoples of the world; questions.
7. ECONOMIC GEOGRAPHY OF THE BRITISH ISLES—
   Wheat, home grown and imported, amount consumed; where imported from and when; harvests of the world; milk, amount used, where produced; precautions taken in handling.

8. Meat—why imported, where imported from, quantities, frozen meat trade, Canterbury lamb, etc.; fish—our fishing industry, fishing methods, quantities landed annually, fishing grounds, etc.
9. Coal and iron—our own coalfields, amount produced, amount exported, our production compared with United States America and Germany, our coalfields compared with United States America coalfields, where our coal goes to and what we get in return.
10. Cotton and wool, where imported from and why, amounts imported, where manufactured and why, where exported to, etc.

SYLLABUS OF HISTORY [1]

CONTRACT I. (FIRST YEAR)

Assignment:

1. Note these Royal Marriages—
   (*a*) Margaret Tudor (led eventually to Union of England and Scotland).
   (*b*) Henry VIII. and Catherine (led to Reformation in England).
   (*c*) Mary Tudor and Philip of Spain (Armada).
   (*d*) Mary Stuart and Francis II. (France and Scotland).
   (*e*) Elizabeth Stuart and the Elector (House of Hanover).

   The Reformation.
2. Greatness of Elizabeth's reign—
   (*a*) The Church.
   (*b*) Social legislation (Poor Laws).

[1] The syllabuses of History were drawn up by the History master, Mr. E. S. Marriott.

3. (*c*) Shakespeare and his circle.
   (*d*) "Greater Britain."
4. (*e*) The Armada.
   The Stuart Kings.
   (*a*) King and Parliament.
5. (*b*) Religion at home and abroad.
   (*c*) Right to take money and govern without Parliament. Petition of Right.
6. (*d*) Eleven Years' tyranny.
   King *versus* Parliament—
   (*a*) Long Parliament.
7. (*b*) Civil War.
   The Commonwealth: Ireland and Scotland. Parliament *versus* the Army. Cromwell's power abroad.
8. Restoration, religious warfare, Clarendon Code, Bunyan.
9. James II.—
   (*a*) Dispensing power.
   (*b*) Declaration of Indulgence.
   (*c*) Trial of the Seven Bishops.
   (*d*) Invitation to William of Orange.
10. (*e*) Flight of James.
    (*f*) Parliament supreme.
    Some idea of the social life of the period.

SYLLABUS OF HISTORY

CONTRACT II. (SECOND YEAR)

Assignment:

1. The English Revolution, 1688.
   William III. unpopular in—
   (*a*) Scotland (Glencoe).
   (*b*) Ireland (war).

2. Bill of Rights.
   Second Hundred Years' War with France.

3. William III. (Peace of Ryswick).
   Anne (Treaty of Utrecht).
   Union of England and Scotland.

4. The '15 and '45 Rebellions.
   " Greater " Britain—
   (*a*) William Pitt and the Empire.
   (*b*) The great wars—
   (1) War of Austrian Succession.
   (2) Seven Years' War.
   (3) The American War.
   (*c*) Our American colonies.
   (*d*) The winning of India.
   (*e*) British power at sea.

6. The French Revolution—its far-reaching importance.
   Union of Great Britain and Ireland.

7. The struggle against Napoleon—
   (1) General characteristics.
   (2) Leading events.
   (3) Results.

8. The Industrial Revolution—social conditions
   The Reform Bill, 1832.

9. Free Trade.
   The Crimean War and the Indian Mutiny.

10. British power in South Africa.
    The Empire (self-government).

SYLLABUS OF HISTORY

CONTRACT III. (THIRD YEAR)

Assignment:

1. British colonisation.
   Early exploration and discovery.
   Voyages of Columbus, Cabot, Diaz, and Vasco da Gama.
2. Spain and the sea-rovers.
   Drake's voyage round the world.
   Frobisher and Sir Humphrey Gilbert.
3. Our first colony—Newfoundland.
   Raleigh and the west coast of America.
   Rise of English sea power.
   Treaty of Utrecht.
4. Struggle between Great Britain and France for colonial supremacy.
   War of Austrian Succession.
   Seven Years' War.
5. Our American colonies.
   The War of American Independence.
6. Captain Cook's voyages.
   Colonisation in Australasia.
7. Our Indian Empire—
   The Trade Period, 1600–1744.
   The rise of British India.
8. Administrative reform.
   Mutiny.
   India under direct rule of the Crown.
9. British power in Africa.
   The Transvaal War, 1899–1902.
10. The new colonial system.
    Results of the Great European War, 1914–1918.

SYLLABUS OF HISTORY

CONTRACT IV. (FOURTH YEAR)

Assignment:

1. Roman period: The Romans in Britain.
   Saxon period: The system of government (Moots).
2. Norman and Plantagenet times—
   Description of a Manor.
   Domesday Book.
   Why the manorial system broke down.
3. Growth of towns.
   The Gilds.
   The Black Death and the Peasants' Revolt.
4. The wool trade (sheep farming).
   Social customs of the period.
5. Tudor and Stuart times—
   The Mercantile System—trading companies.
   The Domestic System—growth of manufactures.
   Break up of the Gilds.
6. The Agrarian Revolution of the sixteenth century.
   The beginnings of the British Empire.
   Social life.
7. Banking and Credit System.
   The Industrial Revolution.
   The Agrarian Revolution of the eighteenth century.
8. *Laisser-faire;* the Factory System and Factory Acts.
   Trade unions.
   Reform Bills and Free Trade.
9. General progress: steamships, railways, the post office, and the penny post.

10. Telegraphs, telephones, electricity.
Poor Law reforms.
Britain and her rivals.
The Great European War.

SYLLABUS OF ARITHMETIC [1]

All Contracts

1. Long rules and short methods.
2. Vulgar fractions (the four rules).
3. Decimal fractions (the four rules).
4. The metric system.
5. Ratio and proportion.
6. Mensuration—
   (*a*) Long, square, and cubic measure.
   (*b*) Areas (rectangle, triangle, circle, irregular shapes).
   (*c*) Volumes (rectangular solids, cylinders).
7. Compound multiplication (by practice) and division.
8. Bills and invoices (shop discount).
9. Household accounts: wages, rent, rates and taxes, insurances (fire, life, health, and employment), clubs, hire-purchase.
10. Percentages.
11. Decimalisation of money.
12. Banking, savings, investments, simple interest, compound interest (Post Office Savings Bank).
13. Averages, profit and loss, proportional parts.
14. Tots.
15. Approximations.
16. The right-angled triangle.
17. Graphs.

NOTE.—The whole of the above appear in an easy

[1] This syllabus of Arithmetic was drawn up by the arithmetic master, Mr. J. L. Hillier.

form in the first two contracts; in an extended and slightly more difficult form, they appear also in the second two contracts. The aim is to provide "an irreducible minimum" which all boys of ten and upwards might be expected to know in a simple form, and, further, to delete a great deal that is useless except to boys who have a gift for mathematics. The following have been omitted: Large numbers, L.C.M. and G.C.M. (except in a most elementary form), compound and complex fractions, recurring decimals, mensuration of cone, pyramid, and sphere, compound interest (the only example retained is that of the Post Office Savings Bank), stocks and shares, brokerage, discount, square and cube root (except by inspection), rules for contracted methods in decimals, involved problems. Any of these can be dealt with in more advanced assignments when boys have completed the work of the syllabus.

SYLLABUS OF DRAWING [1]

ALL CONTRACTS—FREEHAND

Drawing from the object in pencil or pastel.
Drawing from memory in pencil or pastel.
Drawing from imagination in pencil or pastel.

MECHANICAL

Contract I.:

Exercises on lines, rectilinear figures.
Simple scales involving the use of set-square and ruler with fractional measurements.

Contract II.:

Drawing of rectilinear figures.
Scale drawing; plane geometry; revision.

[1] The syllabuses of Drawing and Science are the work of Mr. F. E. Sharp.

Contract III.:
Plane geometry.
Solid geometry—simple.

Contract IV.:
Plane geometry.
Isometric projection.
Oblique projection.
Orthographic projection
Simple perspective.

SYLLABUS OF NATURAL SCIENCE

CONTRACT I. (FIRST YEAR)

GEOLOGY AND MINERALOGY

Assignment:

1. The three natural kingdoms.
   Igneous and sedimentary rocks.
   Volcanoes.
2. Properties of matter.
   Iron smelting.
   Iron: cast, wrought, steel.
   Slate.
3. Properties of metals.
   Gold.
   Salt.
   Coal.
4. Clay.
   Springs.
   Underground rivers.
   Mineral oils.

BIOLOGY

5. Vegetable oils.
   Animal oils.
   Zoology.
   Mammals.

6. Birds.
   Fishes.
   Reptiles.
   Amphibians.
7. An egg.
   Invertebrates.
   Anthropods.
   The housefly.

NATURAL PRODUCTS FOR FOOD AND CLOTHING

8. The cabbage-butterfly.
   Spiders.
   Honey.
   Starch.
9. Milk.
   Flour.
   Sugar.
   Linen.
10. Wool.
    Cotton.
    Silk.
    Leather.

SYLLABUS OF NATURAL SCIENCE

CONTRACT II. (SECOND YEAR)

SOILS AND GARDENING

Assignment:

1. Common rocks.
   Formation of soil.
   Classification of soils.
   Working of soil.
2. Capillary attraction.
   The use of the hoe.
   Uses of lime.
   Preparation of lime.

3. Acids and alkalies.
Garden pests.
Farmyard manure.
Artificial manure.

BOTANY

4. Seed of dicotyledon.
Seed of monocotyledon
The parts of a plant.
Roots.
5. Stems.
Chlorophyll.
Leaves.
Flowers.
6. Fertilisation of flowers.
Fruit.
Dispersal of seeds.
Plants as food.
7. Plant food.
Carbon's place in nature.
Carbonic acid gas.
Up to the light.
8. Non-flowering plants.
Storage of food.
Adaptation of leaves.
Deciduous and evergreen trees.
9. How some plants protect themselves
Solution of lime in water.
Iron in the mineral kingdom.
Iron in the vegetable kingdom.
10. Iron in the animal kingdom.
Ammonia dissolved in water.
Air dissolved in water.
Water plants.

SYLLABUS OF NATURAL SCIENCE

CONTRACT III. (THIRD YEAR)

TEMPERATURE AND PRESSURE

Assignment:

1. The thermometer (2).
   Its fixed points.
   The barometer.
2. Effects of heat.
   The caloric.
   Latent heat.
   How heat travels.

GASES

3. Air: physical properties.
   Constituents.
   Air pressure.
   Oxygen: the active part.
4. Vapour pressure.
   Production of hydrogen.
   Production of carbonic acid gas.
   Products of combustion.
5. The candle flame.
   Coal gas.
   Diffusion of gases.
   Relative densities of gases.

WATER

6. Water: physical properties.
   Its three states.
   Distillation.
   Solution.
7. Expansion by heat.
   Capillarity.
   Skin tension.
   Pressure of water.

8. Boiling.
   Electrolysis.
   Synthesis.
   Standard of gravity.

FOOD

9. Respiration.
   Why we eat.
   Starch.
   Sugar.
10. Fats.
    Proteids.
    Mineral salts.
    Our mixed diet.

SYLLABUS OF NATURAL SCIENCE

CONTRACT IV. (FOURTH YEAR)

PHYSICS

Assignment:

1. Levers.
   Moments.
   Weighing machines.
   Parallel forces.
2. Parallelogram of forces.
   Triangle of forces.
   Gravity and inertia.
   Centre of gravity.
3. Friction measured.
   Pulleys.
   The inclined plane.
   The pendulum.

MAGNETISM

4. Properties of a magnet.
Lines of force.
Earth magnetism.
The dip needle.

ELECTRICITY

5. A simple cell.
A wire conveying a current
Electro-magnetism.
An electric bell.

HYDROSTATICS

6. Density of liquids.
Use of Hare's apparatus.
Principle of Archimedes.
A syringe and a syphon.
7. Pumps.
Liquid pressure.
The hydraulic press.
" Hot-water pipes."

CHEMISTRY

8. Simple chemical reactions.
Chlorine.
Sulphur.
Phosphorus.
9. Hydrochloric acid and chlorides.
Nitric acid and nitrates.
Sulphuric acid and sulphates.
Carbonic acid and carbonates.
10. Potassium and caustic potash.
Sodium and caustic soda.
Ammonia gas and solution.
Lime and the hydroxide.

TESTS IN ENGLISH AND LITERATURE [1]

(Given in September, 1922)

CONTRACT I.

1. Write an account of any *one* person mentioned in one of the following: "The Heroes," "The *Revenge*," "The Last of the *Eurydice*."

2. You will be given 10 minutes to study a poem. The book will then be given up, and you will tell briefly the story which the poem tells. The story will be: "The Farmer's Boy," p. 26, McDougall II.

3. You are away at the seaside. Write a letter to your mother who is at home. Write about 12 lines.

4. Use the following words in sentences:

waist, waste; weak, week; vain, vein; write, right; weather, whether.

5. Write out the following lines and underline the adjectives (describing words):

I am a lean dog, a keen dog, a wild dog, and lone;
I am a rough dog, a tough dog, hunting on my own;
I am a bad dog, a mad dog, teasing silly sheep;
I love to sit and bay the moon, to keep fat souls from sleep.

CONTRACT II.

1. Write an account of any *one* person mentioned in one of the following: "Lochinvar," "The Journal of the Plague," "The Wind in a Frolic."

2. Write out one complete stanza or verse of any poem you know and mark the accented and unaccented syllables.

3. You will be given 10 minutes to study a poem. The book will then be given up and you will tell briefly the story which the poem tells. The poem is: "The Ant and the Cricket," p. 9, Anthology II.

[1] The Subject-masters who drew up the assignments also set the tests.

4. Correct the following:

This is the house what I wrote about.
I hear that he has broke his leg.
I told the dog to lay on the mat.
He eat his food too quickly.
He has ate his dinner.
This is the man which I despise.
His master soon learnt him French.
Feeling tired, I laid on the grass.
He did his work better than me.
The bottle has fell of his bicycle.

5. Your friend has gone to Australia. Write him a letter of about 20 lines telling him how you spent your summer holidays.

CONTRACTS III AND IV.[1]

1. Write an account of any *one* person mentioned in one of the following: "King Lear," "Pilgrim's Progress," "The Deserted Village."

2. Give the meaning of, and say all you can about *three* of the following: Simile, Autobiography, Elegy, Personification, Allegory, Alliteration.

3. You will be given 10 minutes to study a poem. The book will then be given up, and you will tell briefly the story which the poem tells. The poem is: "The Child and the Snake," p. 27, Cameos IV.

4. Divide the following sentences into Subjects and Predicates:

(*a*) That picture attracts much attention.
(*b*) The August sun shone.
(*c*) The wasps were working all the pine boughs.
(*d*) I was standing near the station.
(*e*) On the desk were two pens.

5. Write an autobiography of a fountain pen. Write about 30 lines.

[1] As the Plan had been in operation less than a year, it was unnecessary to give separate tests to boys of Contracts III and IV.

TESTS IN GEOGRAPHY

(Given September, 1922)

CONTRACT I.

1. Draw a map of Australia and mark in the three natural divisions, putting the name on each.
2. They play cricket in Australia in January. Tell me why this is and give a reason for your answer.
3. New Zealand is often called "The Britain of the Southern Seas." Name a few ways in which she is like our islands.

CONTRACT II.

1. Make a section across Norway and Sweden from W. to E., along latitude 65°. See Philips' Atlas, p. 23.
2. There are three climatic regions in Europe. What are they? Tell me what you can about the climate of *any one* of these regions.
3. Write a short account of the Kirghis, telling where he lives and describing his life, habits, cattle, district he dwells in, etc.

CONTRACT III.

1. Make a section across Australia from W. to E., along latitude 25°. Use Philips' Atlas, p. 32.
2. Tell me as briefly as you can about "Canterbury lamb"—where it comes from, how it gets its name, what happens to keep it good, why it is cheaper than English meat, when it arrives in England, and any other fact you know about it.
3. The coast of British Columbia is ice-free in winter, while the mouth of the St. Lawrence is ice-bound. Account for this.

CONTRACT IV.

1. Make a drawing with the sun in the centre, showing the position of the earth at midsummer and mid-winter. Put in the Axis, and Equator, Arctic, and Antarctic Circles, and shade over the part having night.

2. Calcutta lies 90° E. of Greenwich. What time is it there when Greenwich is having noon? Now explain why there is this difference of time between the two places.

3. Write out the six most important things that affect temperature. Then explain how *any one* of them alters the climate of a place.

TESTS IN HISTORY

(Given September, 1922)

CONTRACT I.

1. (*a*) What do you understand by the English Reformation?
   (*b*) When did it take place?
2. Write the names of the first and the last of the Tudor Sovereigns.
3. (*a*) Why is the reign of Elizabeth so important in English history?
   (*b*) What was the greatest event in her reign?

CONTRACT II.

1. (*a*) Explain what is meant by the English Revolution.
   (*b*) Name some of the changes brought about by it.
2. (*a*) Name the greatest political event of Queen Anne's reign.
   (*b*) How has the Act of Union been beneficial to Scotland?
3. Give the date of the following events:
   (*a*) Bill of Rights.
   (*b*) Massacre of Glencoe.
   (*c*) Act of Settlement.

(*d*) Treaty of Ryswick.
(*e*) Union of English and Scottish Parliaments.
(*f*) Treaty of Utrecht.

CONTRACT III.

1. (*a*) What period in English history is called "The Age of Discovery"?
   (*b*) Give some reasons for your answer.
2. (*a*) Name any men who are regarded as founders of the British Empire.
   (*b*) Write all you can about any one of them.
3. (*a*) When was the treaty of Utrecht signed?
   (*b*) What possessions were ceded to England by it?

CONTRACT IV.

1. What were the results of the Roman occupation of Britain?
2. Compare the system of government in Anglo-Saxon times with that of to-day.
3. (*a*) Name the first great charter of English liberty.
   (*b*) When was it obtained?
   (*c*) Write out its chief clauses.

TESTS IN DRAWING AND SCIENCE

(Given September, 1922)

CONTRACT I.

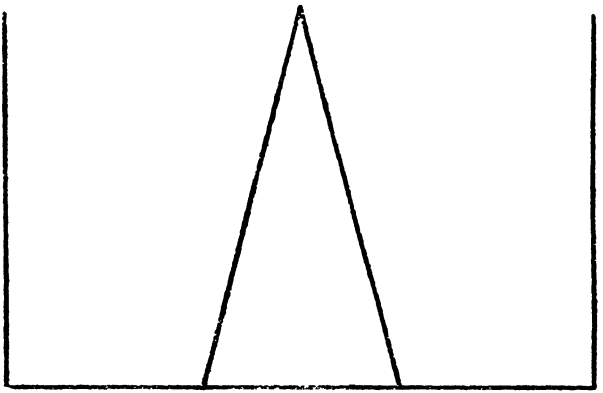
SCIENCE

1. Write down the three parts of a seed.
2. How are seeds scattered?
3. What is chlorophyll? How can it be obtained from a leaf?

DRAWING

Draw this figure. Make the dimensions twice the length, using your ruler and set-square.

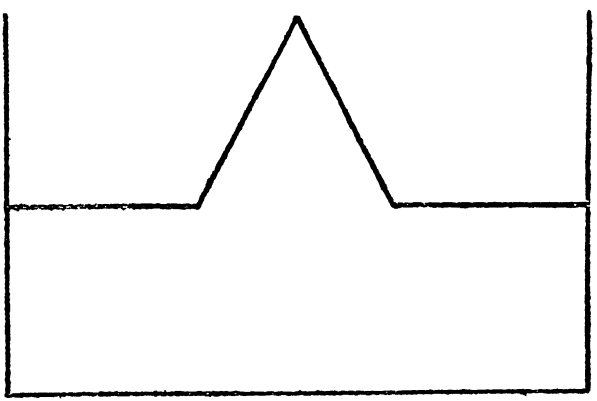
Make a freehand drawing of the object set up.



CONTRACT II.

SCIENCE

1. Write down the names of three plant foods, and what each one is valuable for.
2. Write out the parts of a flower.
3. How are flowers fertilised ?



DRAWING

Enlarge the figure with ruler and set-square to twice the dimensions given.

Make a freehand drawing of the object set up.

CONTRACTS III AND IV.

SCIENCE

1. Of what use is a flower to a plant ?

2. Say what pollen is and describe its use.

3. Some plants have broad leaves, and some have thin ones. Say where you might expect to find samples of each and why.

DRAWING

Draw a scale of $1\frac{1}{2}''$ to $1''$ to read $4'$, and showing inches. Draw the figure and frame to scale.

Make a freehand drawing of the object set up.

TESTS IN MATHEMATICS

(Given September, 1922)

CONTRACT I.

1. A boy when sorting out oranges put two in one box every time he put three into a second, and 5 into a third box. When he had finished there were 275 oranges in the third box. How many were there in each of the others ?

2. What is left of £6 10*s.* 0*d.* after paying for 48 yards of cloth at 1/11½ per yard ?

3. (*a*) Find the greatest and least of the following fractions :

two-thirds, five-sixths, seven-twelfths, three-fifths.

(*b*) Find the difference between the other two.

4. How many sixteenths of my money will remain after I have spent three-eighths of it ?

5. What is the difference between two-fifths of three-quarters, and one-half of three-fifths ?

CONTRACT II.

1. What two numbers added together will make nine hundred thousand and seventy-three, if one of them is seven thousand and forty-nine greater than the other?

2. I own four-fifths of a building and sell one-third of my share for £80. What is the value of the building?

3. After spending ·375 of his wages on food, ·26 on rent, ·24 on other expenses, a man puts 13/6 in the bank. How much does he earn?

4. A bankrupt is able to pay 15/3 in the £. How much will a creditor lose to whom he owes £295?

5. Twenty labourers can dig a trench in 7 hours. How many hours would it take 25 labourers to dig a trench half as large.

CONTRACT III.

1. You are told that 24 times 8,644 are equal to 207,456. Find in the shortest way what 25½ times 8,644 are.

2. A man owns ·875 of a ship. He sells one-seventh of his share for £1200. What is the value of ·75 of the ship?

3. How many pieces ·084 in. long can I cut from a brass rod 1 ft. long, and how much is left?

4. The average weight of 20 men is 11 st. 12 lbs. If 6 of them average 12 st. 9 lbs., what is the average weight of the others?

5. The profits of a business amounted to £292 10s. 0*d*. If A's capital was £450, B's £650, and C's £850, what portion of the profits should each receive?

CONTRACT IV.

Your test is Card 32 of the Sovereign Problem Tests (7),[1] omitting number 5 and substituting for it a sum which you will find on the blackboard.

[1] New Sovereign Problem Tests, Grade 7 (Schofield & Sons).

TESTS IN ENGLISH COMPOSITION AND LANGUAGE

(Given March, 1923)

CONTRACT I.

1. Write *one* of the following :

   (*a*) A story about a little boy, a fairy and a giant.

   (*b*) You are on a holiday at the seaside. Write a letter to your mother at home.

   (*c*) Write an autobiography of an elephant or a tiger. (50 marks.)

2. Write sentences to show that you understand the meanings of the following words :

   waste, waist ; wait, weight ; weak, week ; brake, break ; desert, dessert ; herd, heard ; rein, rain ; bold, bowled ; find, fined ; fir, fur. (20 marks.)

3. Write the following sentences and underline the verbs :

   Mother rocks the cradle.
   Baby rules the world.
   Ships sail o'er the ocean.
   They built a cabin by the shore.
   By the bank of the stream the lion stood.
   From caverns came the beasts of prey.
   The stars came out far over the summer sea.
   A song they sang of violets blue.
   He whistled to the morning star.
   They dream of those that fought in France (10 marks.)

4. Correct the following sentences :

   Don't he run fast ?
   He don't know his work.

You wasn't at school yesterday.
There's five books on the table.
That lazy boy don't mean to try
On the desk was three large books.
On the seat was his book and his pencil.
Drake and Nelson was two great sailors
Two and two makes four.
Either Jack or Jim were here.
The man with his two sons were present.
Give me some of them apples.
A sum of £800 were paid.
The horse run down the road.
Jack drunk his tea.
The boy has eat his dinner.
Tom has eat his breakfast.
The girl has broke her leg.
Jack and I was invited.
Me and Harry went to London (20 marks.)

CONTRACT II.

1. Write *one* of the following :

(*a*) An original story.
(*b*) A letter to your mother while you are away in a convalescent home recovering from an accident.
(*c*) An autobiography of an overcoat. (50 marks.)

2. Change the following sentences from Direct to Indirect Speech :

" I am to go next week," said Doris.
" When are you coming back ? " asked the boy.
" I am coming next week," he replied.
" You are very late," remarked Charlie.
The pupil walked up to the teacher and said : " Please I have finished."
" You can have that one," suggested the baker

"If they come," remarked George, "the trip will be enjoyable."
"We must hurry," said the teacher, "or we shall not be in time."
"I put a shilling in the bank this morning," said William.
"Why are you so late?" asked his father. (25 marks.)

3. Use three adjectives with each of the following words, and then use in sentences the phrases you have formed:

sea, boy, garden, dog, dress.

4. Rewrite the following, inserting necessary punctuation marks:

Oh Ive had such a curious dream said Alice and she told her sister as well as she could remember them all these strange adventures of hers that you have just been reading about and when she had finished her sister kissed her and said that was a curious dream dear certainly but now run in to your tea its getting late so Alice got up and ran off thinking while she ran as well she might what a wonderful dream it had been. (10 marks.)

CONTRACTS III AND IV.

1. Write *one* of the following:

(*a*) An original story.
(*b*) Write an advertisement for a newspaper offering a situation to a boy just leaving school.
Write to your schoolmaster asking for a testimonial as to your character and work.
Write a letter applying for the situation.
Write a letter from the firm to you making an appointment.

(*c*) Write an essay on the Dalton Plan and the class system.
Give the advantages and disadvantages of each. (50 marks.)

2. Correct the following sentences :

My book was took from the shelf.
He is sending a parcel of books for my friend and I.
You did not ought to have done that.
I never said anything of the kind.
I bought it off of him.
I have read the three first pages.
Teacher is going to learn me Latin.
The crippled boy walks slow.
You done that very quick.
I have not got to work.
Who done that ?
I see Jack in the park last night.
The hare run across the field.
She has broke the glass.
I have laid here since early morn.
The slain were laying on the field of battle.
His knowledge of Shakespeare and Milton were extraordinary.
The days of man is but as grass.
The book ain't there now. Jack has took it.
You must let Tom and I know when you are coming.
On the table was a pen and a pencil. (25 marks.)

3. Use three adjectives with each of the following words, and then use in sentences the phrases you have formed :

flower, miser, doctor,t rade, people. (15 marks.)

4. Change the Subjects and Verbs in these sentences from singular to plural :

The boy stands on the burning deck.
The dog lies down and soon is asleep.

The wind howls and the wave leaps high.
Along the road comes the merry child.
The star shines in the western sky.
Along the shore the seagull flits.
He crosses the moor by moonlight paths.
The camel skims o'er the desert plains.

(10 marks.)

TESTS IN LITERATURE [1]

(Given March, 1923)

CONTRACT I.

Note: *You must answer three questions. Question* 1 *is compulsory.*

1. You will be given 10 minutes to study the poem "Lucy Gray," on p. 40, McDougall II. The books will be collected and you will be asked to tell the story contained in the poem.

When you have done question 1 *read over all the others carefully, and choose the two which you can do best.*

2. You have learned by heart "The Throstle." Some of the lines in the poem imitate the song of the bird. Write out the lines which seem to you to do this.

Also write five sentences each containing any imitative word you know. Underline the imitative word in each sentence.

3. Write an account of Ariel.

4. Macbeth was troubled by strange appearances and voices. How do you account for this? and describe what happened on any one of these occasions.

[1] In the first test English Language and Composition, and English Literature were included in the same paper. In this test papers were given in each subject separately.

5. Give a full account of any one of the adventures that befell Tom, the chimney sweep.

6. Write on any subject we have been studying which is not touched upon in the above questions, and in which you are greatly interested. Put a heading to your answer.

CONTRACT II.

Note: *You must answer three questions. Question* 1 *is compulsory.*

1. You will be given 10 minutes in which to study the poem entitled "The Soldier's Dream" (p. 32, Newbolt, or p. 53, Anthology, II.). The books will then be taken up and you will write an account of "The Soldier's Dream."

When you have done question 1 *read over carefully all the others and choose the two you can do best.*

2. Give a full account of one of the adventures that befell Jim Hawkins.

3. The English has always been a sea-loving race. Say all you can in support of this statement. Also write out and scan one verse of any sea-poem you know.

4. Give an account of the fight which took place between the Knight of the Leopard and the Saracen horseman who encountered him as he was nearing the oasis.

5. Say all you can about dramatic performances before theatres were built.

6. Write an account of the character in Julius Cæsar which most interested you.

7. Write on any subject we have been studying in Literature which is not touched upon in the above questions and in which you are greatly interested. Put a heading to your answer.

8. *For Form* 3 *only:*

"How that person haunted my dreams I need hardly tell you. On stormy nights when the wind shook the four corners of the house, and the surf roared along the cave and up the cliffs, I would see him in a thousand forms, and with a thousand diabolical expressions."

Write out the above passage in phonetic script.

CONTRACTS III. AND IV.

Note: *You must answer three questions. Question* 1 *is compulsory.*

1. You will be given 10 minutes to study the poem entitled "The Enchanted Shirt," p. 96, Golden Book of Verse. The books will then be collected and you will write the story contained in the poem.

When you have done question 1, *read over carefully all the others, and choose the two you can do best.*

2. Say all you can about Thomas Gray.

3. Write a description of the scene which Gray depicts in the first four verses of "The Elegy." Be careful to reproduce the landscape described by Gray.

4. The English has always been a sea-loving race. Say all you can in support of this statement. Write out and scan one verse from any sea-poem you know.

5. What is Alliteration? Quote at least five examples from poems we have studied.

6. Describe carefully and fully the character of Meg from "The Chimes." Or describe Trotty's ascent of the belfry.

7. Write out any sonnet you know and tell the circumstances which inspired its composition.

8. Write on any subject we have been studying which is not touched upon in the above questions, and in which you are greatly interested. Put a heading to your answer.

TESTS IN GEOGRAPHY

(Given March, 1923)

CONTRACT I.

1. Write about six or eight lines describing a tropical forest, mentioning the vegetation, climate, people, productions, etc.

2. Tell me all you can about the life of a rubber collector near the Amazon, or a cowboy on the Pampas Plain.

3. Draw a map of Africa and show on it how much of the Cape to Cairo Railway has been constructed. Then put in these places: Cape Town, Cairo. *Or*, Draw a map of South America and put in the Andes Mountains, River Amazon, River Plate, the Equator, Buenos Ayres, Panama Canal, Para.

CONTRACT II.

1. Write a short description of Canadian Prairie—saying all you can about the surface, vegetation, what it produces, who lives there, etc.

2. Tell me all you can about "Terrace farms and vineyards"—where you find them, how they are made, and what is grown on them. *Or*, Name as many as you can of the things grown around the "Med." and say why they thrive there so well.

3. Draw a map of North America and mark on it the following: industrial area, cotton, wheat, salmon, Californian fruit valley; *or*, Make a section across North America (along latitude 40°) from W. to E.

CONTRACT III.

1. Write a few lines on the flooding of the Nile—saying at what time of the year it happens, the cause of

it, what the results of the floods are, and anything else you can about it.

2. Account for the dense population along the Ganges Valley, *or* say :

How long the Suez Canal is, and how long it takes a ship to go through it.
Why it is so important to us.
Why ships go through it slowly.
How it is kept free from mud, sand, etc.

3. Draw a map of India and mark in it the Tropical Forest area, the Desert area, and the Tropical Grasses area. *Or*, Draw a map of the River Nile, and show Lake Victoria Nyanza, the Blue Nile, Atbara, Abyssinian Mountains, six cataracts, Cairo, Aswan, Pyramids, Suez Canal.

Contract IV.

1. Write a few sentences about our wheat supplies, telling me what proportion we grow at home and what proportion we import, where we import it from, and why we import it from these places, when it arrives here, and why it arrives at all times of the year. Say also why we need such huge supplies.

2. Describe and illustrate how Niagara Gorge has been formed ; *or*, Describe and illustrate how horseshoe lakes have been formed in the Mississippi.

3. These figures show the quantities of milk brought to London in one year by our railways :—

G.W.R.	11,000,000	gallons
L.N.W.R.	9,000,000	,,
S.W.R.	8,000,000	,,
G.N.R.	7,500,000	,,
G.E.R.	7,000,000	,,
M.R.	6,000,000	,,

Look at the first three lines of these figures, then write about three sentences in explanation of them.

Why have these places such huge quantities of meat to send us ?

United States America	7,000,000 cwts.
Argentine	5,000,000, ,,
Canada	2,000,000 ,,
New Zealand	2,000,000 ,,
Australia	1,000,000 ,,

TESTS IN HISTORY

(Given March, 1923)

CONTRACT I.

1. What do you think were the most important events in the reign of Elizabeth ?
2. Why do you think the Civil War was fought ?
3. Write down all you know of Oliver Cromwell.

CONTRACT II.

1. Write all you can about the East India Company and its work in India.
2. (*a*) Give the date of the French Revolution.
   (*b*) Why did England go to war with France at that time ?
3. Say what you know of *one* of the following :—
   (*a*) The Great Commoner.
   (*b*) General Wolfe.
   (*c*) George Washington.

CONTRACT III.

1. How did we come into possession of Canada ?
2. Robert Clive was one of the founders of the Indian Empire. Explain this.
3. Give the names of important persons concerned in the colonisation of Australia, and say what you know of each one.

CONTRACT IV.

1. Explain briefly what is meant by " The Industrial Revolution," and " The Agrarian Revolution."
2. What are the causes which led to distress in England after 1815 ?

3. (*a*) Mention some of the evils of factory life during the early years of the nineteenth century.
(*b*) How were these evils removed?

TESTS IN NATURE STUDY, DRAWING, AND SCIENCE

(Given March, 1923)

CONTRACT I.

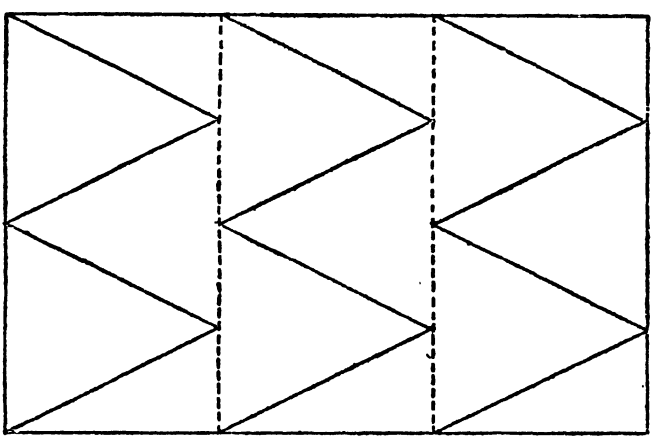
SCIENCE

1. Describe any experiment you have seen which shows that:
(*a*) Metals expand when heated; *or*
(*b*) Water expands when heated; *or*
(*c*) Air expands when heated.

2. Draw a thermometer and put in the four important temperatures which you learned.

DRAWING

1. Make an exact copy of this figure:



2. Draw one of the objects set before you.

CONTRACT II.

SCIENCE

1. Give as fully as you can the reasons why we eat.

2. What happens when steam is passed over heated iron filings?

DRAWING

1. A table is 6 ft. long, and 3 ft. 6 ins. wide. Draw it to a scale of 1 in. to 1 ft. Before you commence to draw the table construct the scale to which the table is to be drawn.

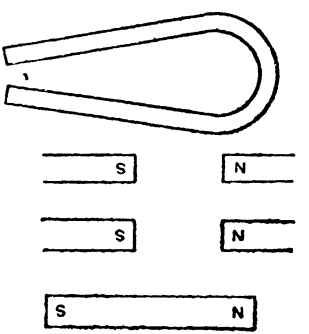
2. Draw one of the objects set before you.

CONTRACTS III AND IV.

SCIENCE

1. Draw the magnet field of the magnets placed as in the diagram.

2. If you had a lever 10 ft. long and you made the fulcrum two feet from one end, what force would you have to apply at the other end to lift a weight of 36 lbs.?



DRAWING

1. Make an isometric drawing of a brick 9 ins. by 4½ ins. by 2½ ins. Draw it half size.

2. Draw one of the objects set up for you.

TESTS IN ARITHMETIC

(Given March, 1923)

Form 1 (Contract I.):

1. Multiply one thousand three hundred and five by 99 and divide the result by 45.

2. How many twelfths of an inch are there altogether in two lines, one $1\frac{1}{4}$ ins. long and the other two and two-thirds ins. long?

3. (*a*) $\frac{3}{4} \times \frac{6}{7} \times \frac{14}{15}$; (*b*) $\frac{7}{8} \div \frac{3}{4}$.

Or, A train leaves London at 5.22 p.m. and reaches Ipswich at 6.57 p.m. How long does the journey take? The distance from London to Ipswich is 73 miles. How much should the fare be at $1\frac{1}{2}d.$ per mile?

Form 2 (Contract II.):

1. 248 multiplied by 79 equals 19,592. Find what 248 multiplied by 69 is.

2. What is the total of the following bill?

$1\frac{1}{2}$ lbs. of butter @ 2/– per lb.; $\frac{3}{4}$ lb. of cheese @ 1/4 per lb.; $\frac{1}{2}$ lb. of tea @ 2/8 per lb.; 18 eggs @ 2/– doz.

3. What is the area of a room which is 4 yds. 1 ft. 6 ins. long, and 3 yds. 2 ft. wide? How much would it cost to cover the floor with linoleum at 2/6 per sq. yd.?

4. Add together: 1·25, ·03, 1·7, 2·08, and take the result from 10.

Form 3 (Contract II.):

1. The population of four large towns is given. Fill in the missing particulars:

					Increase.
Liverpool	(1901)	704,134	(1911)	746,566	
Manchester	,,	644,873	,,	714,427	
Birmingham	,,	523,179	,,	525,960	
Leeds	,,	428,968	,,	445,566	
Total	...				

2. Add together: ·125 of two guineas, ·375 of 30/–, and £4·75.

3. What will it cost to cover the floor of a room 4 yds. 1 ft. 6 ins. long and 3 yds. 2 ft. wide with linoleum at 2/6 per sq. yd.?

4. What will be the simple interest on £5 10s. 0*d.*

left in the bank for 5 years, interest being paid at the rate of $2\frac{1}{2}$ per cent. per ann. ?

Forms 4 *and* 5 (Contracts III. and IV.) :

1. Without actually working, state why the following are incorrect :

(*a*) £7 17*s.* 5*d.* multiplied by 240=£1889 15*s.* 10*d.*
(*b*) 2·03 ,, ·02=·406.

2. A man who earns £3 15*s.* 0*d.* a week pays rent, rates, and insurances amounting to £39 per ann. What percentage is that of his income ?

3. Divide £300 in the proportion of 3 : 5 : 8.

4. Make out the following bill, a butcher's bill for a month :—

$4\frac{1}{2}$ lbs. of sirloin @ 2/8 per lb. ; $\frac{3}{4}$ lb. of steak @ 1/10 per lb. ; 3 lbs. 12 ozs. of leg of mutton @ 2/- per lb. ; $\frac{1}{2}$ lb. of suet @ 8*d.* per lb. ; $1\frac{1}{2}$ lbs. of stewing beef @ 1/8 per lb. ; $\frac{1}{4}$ lb. of kidney @ 1/6 per lb. ; 4 lbs. 3 ozs. of topside @ 2/3 per lb.

Form 5 *only :*

5. How many sixpences are equal in value to £a—b*s.*—c*d.* ?

6. What is the area in acres of a triangular field whose sides measure 220 yds., 264 yds., 440 yds. ? (Work in chains and use logarithms if you wish.)

LISTS OF BOOKS

LITERATURE

(Old class sets)

King of the Golden River (Ruskin).
Sesame and Lilies (Ruskin).
The Water Babies (Kingsley).
The Heroes (Kingsley).

Tanglewood Tales (Hawthorne).
The Journal of the Plague Year (Defoe).
The Pilgrim's Progress (Bunyan).
The Adventures of Ulysses (Lamb).
Tales from Shakespeare (Lamb).
The Compleat Angler (Walton).
The Treasure Island (Stevenson).
The Talisman (abridged) (Scott).
The Chimes (Dickens).
The Cricket on the Hearth (Dickens).
A Tale of Two Cities (Dickens).
A Christmas Carol (Dickens).
Oliver Twist (Dickens).
David Copperfield (Dickens).
Tom Brown's Schooldays (Hughes).
The Last of the Mohicans (Cooper).
Masterman Ready (Marryat).

OTHER BOOKS

(*Several copies of each*)

Boys of the Ages (Scales).
Ten Boys (Andrews).
Number Stories (Smith).
Gods and Heroes (Francillon).
Myths of the Red Children (Wilson).
Wigwam Stories (Judd).
Gulliver's Travels (Swift).
The Dickens Book (Bell's edition).
The Ewing Book (Bell's edition).

NOTE.—These are in addition to the volumes contained in the school library.

POETRY

Boy's Book of Poetry. Parts I., II., III. Macmillan.
Children's Anthology. Parts I., II., III. Macmillan.
Children's Cameos of Poetry and Prose. Parts I.—VIII. Philip.
Anthology of Recent Poetry. Harrap.
The Golden Book of Verse. Blackie.
Book of Verse for Students at Home and Abroad (Newbolt). Bell.
English Verse, Old and New. Cambridge Press.
Poems of To-Day, 1st and 2nd Series. Sidgwick & Jackson.
Anthology of Verse (Drinkwater). Collins.
Mount Helicon. Arnold.
The Children's Shakespeare (Various Plays). Macmillan.
Complete Texts of Shakespeare (Various Plays). Various.

History

(Old class sets)

Piers Plowman Histories. Books II.—VII. Philip.
Self-Help Histories, Tudors, Stuarts, Hanoverians. Nisbet.
Scenes from Tudor Times. Oxford Press.
Scenes from Stuart Times. Oxford Press.
Synopsis of British History. Oliver & Boyd.
Three Famous Voyages. Charles & Dible.
Brief Survey of British History (Warner). Blackie.
Social History of England (Guest). Bell.
Illustrated English History. I. and II. (Gardiner). Longmans.
Romance of our Colonies (Hudson). Pitman.
The Modern British State (Mackinder). Philip.
First History of England. Part I. (Keatinge). Black.
Lord's Men of Littlebourne (Andrews). Harrap.
Deeds that Won the Empire (Fitchett). Smith Elder.
Fights for the Flag (Fitchett). Smith Elder.
Constitutional Documents (Historical Association). Bell.
Historical Documents. Books I., V., VI. (Keatinge). Black.

Other Books

(Several copies of each)

England and the Empire. Parts I., II., III., IV. (Field). Ginn.
Pictures of Social Life (Stevinson). Harrap.
Short Social and Political History of Britain (Mackie). Harrap.
Brief History of Modern Europe (Glover). Harrap.
Graphic History of United States (Thompson & Ross). Harrap.
Story of our Empire (Salmon). Harrap.
The Threshold of History (Hall). Harrap.
Days before History (Hall). Harrap.
The Golden Fleece (Morris & Wood). Oxford Press.
Introduction to Industrial History (Allsopp). Bell.
The Change to Modern England (Allsopp). Nisbet.
The Coming of the Friars (Jessop). Fisher Unwin.
English Seamen of the Sixteenth Century (Froude) Longmans.
Landmarks of English Industrial History (Warner). Blackie.
The Industrial Revolution (Toynbee). Longmans.
Nineteenth Century Europe (Beazley). Collins.
Paths of Peace. Book I. (Ross). Oxford Press.
Paths of Peace. Book II. (Binyon). Oxford Press.
Etc., etc.

GEOGRAPHY

(Old class sets)

Human Geography: In the Old World (Fairgrieve & Young). Philip.
Human Geography: In the New World (Fairgrieve & Young). Philip.
Human Geography: Homes Far Away (Fairgrieve & Young). Philip.
Human Geography: Europe and Britain (Fairgrieve & Young). Philip.
Human Geography: British Isles (Fairgrieve & Young). Philip.
Gateways of Commerce (Fairgrieve & Young). Philip.
Essentials of World Geography (Unstead & Taylor). Philip.
Self-Help Geography: British Isles (Sweeting). Nisbet.
Self-Help Geography: The Americas (Sweeting). Nisbet.
Self-Help Geography: The World at Work (Sweeting). Nisbet.
Man and his Markets (Lyde). Macmillan.
World in Picture and Story (Riley). Philip.

OTHER BOOKS

(Several copies of each)

Regional Geography of America, Africa, and Australasia (Parkinson). Collins.
Round the Empire (Parkin). Cassell.
New Outlook Geography: How People Live (Brown). Harrap.
Regional Geography: The Americas (Reynolds). Black.
Commercial Geography of British Isles (Mort). Oliver & Boyd.
Our Empire Overseas (Palmer). Blackie.
Regional Geography of Europe (Mort). Oliver & Boyd.
Canada: To-Day and Yesterday (Bates). Harrap.
Geography of Europe (Lyde). Black.
Explorer Geographies: The Americas (Bruce). Bell.
Lands Beyond the Channel (Mackinder). Philip.
The Economics of Commerce (Maxton). McDougall.
Practical Geography. Parts I. and II. (Unstead). Oxford Press.
Etc., etc.

CHAPTER IX

REVIEW OF SUBJECTS TAKEN UNDER THE DALTON PLAN

I. *Arithmetic*

DURING the period covered by the experiment three full-dress tests of the conventional type were given in all subjects and every care was taken to make the examinations genuine. They were given after 6, 9, and 12 months respectively. Written answers were called for in all subjects. The results, put shortly, showed clearly that in all subjects but one the work was excellent; it was indeed beyond expectation, and following the first test was a real and pleasant surprise.

The exception was Arithmetic. The result of the first test was so entirely unsatisfactory as to give the whole staff of the school furiously to think; and although, owing to intensive work, an improvement was clearly evident in the next and also in the last test, the issue raised by the results still causes anxiety. It was not possible in a few minutes, and on the spot, to decide the cause, or causes, of this disagreeable symptom. The whole ground, however, has been carefully surveyed and the following observations will show the particular points noted.

It will be conceded at once by any practical teacher that the weakness and difficulty which surround Arithmetic in elementary schools are not

new, and are not the particular discovery of the Dalton Plan; they existed before and are even now not unknown where the system of class teaching obtains. The experience of six months of Dalton working did, however, lay the subject bare, and made it impossible to pursue it in the old way without serious review.

To what are the weakness and difficulty due? In the first place, it was evident that the groundwork was weak. The Dalton experiment is confined, it will be remembered, to boys of ten and upwards, *i.e.* from Standard 5. Standards 2, 3, and 4 therefore are not included. It is a common fault of teachers when a class result is unpleasing to try and attach blame to the class (or classes) below. It is an undesirable habit to cultivate, mainly because it rarely supplies the true cause of the trouble, and should therefore not be encouraged. At the risk, however, of being misunderstood for the moment, and owing to the fact that one of the characteristics of the Dalton Plan is that each child's work is closely scrutinised, it was plainly seen, as the experiment proceeded, that numbers of boys were weak in tables and simple rules. That is to say, the fundamentals had not been grasped by many boys. If we remember that all later work in Arithmetic—practice, proportion, reduction, and the rest—are simply extensions and variations of the simple rules, the tremendous importance of a good grounding in these rules becomes obviously apparent. This therefore was the first, but not uncommon, discovery, for it is conceivable that such a discovery might follow the adoption of any plan. But unlike other plans, where 60 or 70 per cent. of success

in the school is a passable result, where, in fact, a good "average" is mainly what is looked for, the Dalton Plan, demanding as it does, attention to each individual child, requires as nearly as possible a 100 per cent. result. That is to say, by the very organisation that the Dalton Plan provides, every child has to face, and if possible accomplish, his task.

In the second place, on a close analysis of the work that was constantly set for practice, it was borne in upon the staff that a large proportion of that work was unreal, unpractical, largely artificial, and much of it unnecessary.

This was considered carefully in the light of the large amount of school time spent in trying to teach the subject. Under the class system in most elementary schools the best and freshest part of every school day is given over to Arithmetic, and even under a system of individual work, such as the Dalton Plan, as much as one-fourth or one-fifth of a child's school time is devoted to it. The question had to be asked, whether the return was such as to justify the spending of so much time on work that seemed so unreal and so unnecessary? In what does the unreality consist?

First, there is the question of large numbers and large quantities that in most cases have little or no relation to life itself. Examples of these crowd the pages of our school text-books. During the war one became accustomed to colossal figures, although even these were always referred to in approximations. In any case what justification is there for giving small children huge numbers to manipulate? In many cases the numbers are

artificially created in order, as some think, to assist in driving home a process, or to produce accuracy. As a matter of fact they do neither. More often they produce muddle, fatigue, and boredom, and usually bring about in the child an utter distaste for Arithmetic of any kind.

It is a queer place to look for a sound treatise on Arithmetic, but in "English for the English" (Cambridge Press) Mr. George Sampson has a chapter on Arithmetic which it would pay any teacher to read and study carefully. Mr. Sampson is an elementary schoolmaster, who is also a great literary critic. His opinion, therefore, should be of great value. "Reduce 10587399576 sq. ins. to sq. miles." "There is not," says Mr. Sampson, "the faintest justification for making children work sums of that kind." Is there any practical teacher who would dissent from that? And who would not criticise in the same way the enormous number of similar examples in other rules given in school text-books?

Second, there is the question of vulgar fractions. It is doubtless necessary faithfully to deal with the fractions of everyday life, but why, in the first place, should fractions occupy so large a part of the elementary school syllabus, and, in the second place, why should fractions so frequently be presented in the form of abstract and complicated examples that are not the common coin of everyday life? In an article by C. W. Washbourne on the "Winnetka Plan of Individual Work" which appeared in the *Teachers' World* in December last, there occurs the following passage :—

"The department of Research in the Boston Schools has analysed all types of addition of fractions from the

standpoint of difficulties. The National Society for the Study of Education has found that with very few exceptions trade and industry and the ordinary operations of life require no denominators higher than 12 in the original addenda."

If that be admitted, what can be said in support of all the " monkey-puzzles " strewn up and down the pages of our school text-books ?

Listen to Dr. Percy Nunn, who writing in the same paper in the previous June said :

" There is little or nothing to be said for retaining to-day complicated examples containing fractions and combinations of fractions that occur in no practical problem—little or nothing for their dismal associates L.C.M. and G.C.M."

Further, and closely connected with the above, are the concrete examples—types, they are called, but are more often mere " catches " ; for example, when will the hands of a clock be together—which some teachers fondly delude themselves have only to be taught once to get them remembered. Why should small children be bothered to find out when the hands of a clock will be together, or when electric bells will ring together, or when tramcars are to pass each other ? What average and sane person ever troubles about these things ? What can be said for Banker's Discount, Stocks and Shares, and Compound Interest in elementary schools ? In all probability the only examples of Compound Interest a child will ever come across are those connected with the Post Office Savings Bank, or a Building Society ; but neither of these will ever provide the children with such formidable examples

as the school books furnish. Yet teachers go on teaching this sort of thing.

Thirdly, there is the question of "rules" and "processes." The Dalton experiment disclosed to an alarming extent the way in which "rules" and "processes" interfere with the arrival at a correct or an intelligent result. One or two examples will suffice. A boy was asked to reduce $1\frac{1}{2}$ miles to yards. He promptly multiplied 1760 yards by 3 and divided the result by 2. He was persuaded afterwards ("because his answer was right but his working wrong") to put down 1 mile 4 furlongs and reduce in the conventional way to yards. Readers may well be astonished at this, but the explanation is simple. The lesson at the time was on "Reduction," and so every example in some way or other was made to bend to formal tradition. Take another example. A boy was asked to work a problem which, in the end, resolved itself into multiplying $5/11\frac{1}{2}$ by 48. This is how he did it:

$48 \times \frac{1}{2}d.$	$24d.$
$48 \times 11d.$	$528d.$
12)	$552d.$
	$46s.$
$48 \times 5s.$	$240s.$
20)	$286s.$
	£14 6s. 0d.

For sequence, and even neatness, one cannot quarrel with this. As a matter of fact, the boy went astray in the process, for he had a wrong answer.

Being asked if he did not think that by multiplying 48 by 6*s.* and subtracting 2*s.* from the result was not a better way of arriving at the answer? his reply was: "Oh yes, I know that; but this is the way Mr. So-and-So likes." He had sacrificed intelligence to the doubtful object of trying to please Mr. So-and-So.

An Inspector stated somewhere recently, that when asking some boys of 13 years of age to work some simple sums and write down the answers, he gave them this: 201 divided by 12. He says he found some of the boys working it by factors.

What does it all mean? It would appear that the "rules" and "processes" that are so assiduously taught and occupy so large an amount of school time are liable, after all, to get in a child's way. The "teaching" of rigid "processes" is the outcome of the unreal Arithmetic with which the school syllabus has, in the past, been burdened. A sane and reasonable revision of the syllabus in the direction of useful and practical Arithmetic would make the emphasis on "rules" and "processes" much less necessary. The process would then take its right place: instead of starting, as is now done, with rigid rules of working, they would be resorted to only when all other resources fail. In Mr. Bernard Shaw's phrase the education of the children would no longer be interfered with by their schooling. Almost every school text-book queers the pitch in this matter. On every page of them one finds "Proportion," "Interest," and so on displayed at the top, while below are printed stodgy examples in each of these. The whole implication is that they are to be worked by prescribed rules.

The writer believes, therefore, that the indifferent results of the school tests are not due to any fault of the Dalton Plan (indifferent results are not unknown under the old plan), nor are they due entirely to the teacher (he is doing the approved thing), certainly the fault is not the child's—the fault is due to the *kind* of Arithmetic that is taught and to the purpose and method of teaching it.

The reason for emphasising the kind of Arithmetic referred to in this chapter and the undue insistence on " processes " is not far to seek. It is found in the old and almost exploded theory of formal training. It was believed, and acted upon, that a child mentally alert in one subject would show alertness in other subjects. Arithmetic was idolised as one of the best media for the cultivation of mental agility. The same was thought twenty years ago about formal grammar. But formal grammar has been dropped from the curriculum of some elementary schools because the idea no longer prevails. Grammar of quite another sort has, or should have, taken its place. The formal variety is now postponed to that age and period of development when it is more likely to be understood. Unfortunately that age never arrives in the case of an elementary school child, for the vast majority of them rarely receive further instruction of any kind. But that is another story. The point here is that the very reasons which caused formal Grammar to be dropped are the very reasons why formal Arithmetic is maintained. But these reasons are as unscientific and uneducational in the case of formal Arithmetic as they are in the case of formal Grammar ; they are persisted in with results that

are, and must continue to be, discouraging. It is scarcely a question of "accuracy" either, for no child wishes to get his work wrong. To do so is as depressing and dispiriting to him as it is discouraging to his teacher. Many teachers know the difficulty and understand the situation.

What, then, is required? There can be no better guide in this matter than Dr. Nunn, who, in the article already referred to, says:

"If you will inquire candidly what amount of arithmetical skill the average citizen needs to carry him respectably through life you will be surprised to find how small it is. To cast accounts, to check change, to compute prices, occasionally to multiply and divide, every now and then to estimate a percentage—does not this list include practically all the necessary accomplishments? . . . A child will gain far more from a study of useful and interesting applications of arithmetic than by becoming a virtuoso in the abstract manipulation of figures that mean little or nothing."

Mr. George Sampson writes in precisely the same strain.

Put shortly, and in general terms, it means that Arithmetic should be simplified and made practical. It should have relation to life. It should be intelligible and reasonable. It is surely not beyond the wit of man to devise a syllabus that would meet these demands, and thus remove from the elementary school an incubus and a bogey.

In the meantime, as a result of the Dalton experiment, the writer suggests that in the lower classes of the school the wise teacher would concentrate on the tables and the simple rules in order to cultivate as far as may be an intelligent

understanding and easy manipulation of these, and to do this largely through mental work. The writer doubts if there is much to be said in favour of insisting on written work in Arithmetic with small children. Constantly writing down "working" tends to glorify processes and give them a prominence that is undesirable, and reduces to a minimum time that might with advantage be spent on intelligent mental work.

In the upper classes, where individual work or the Dalton Plan operates, assignments of work based on a simplified and practical syllabus should be the rule. These would constitute an "irreducible minimum," and, if necessary, could be graded from Standard 5 upwards. All boys could use, and be expected to understand, the work in such assignments. This minimum would be done by all, and, just as in other subjects, a boy would work steadily through his assignments, completing them, if he can, in the assigned time or less. If he finish in good time, as he is almost sure to do, the assignment might be supplemented by others containing more advanced work, or go on with the next assignment. It has to be recognised that all boys are not mathematically gifted, neither do they all work at the same rate. And to bother non-mathematically inclined boys with unreal and unnecessary work in Arithmetic is not merely to waste time, but is a profound mistake.

On the other hand, those who are mathematically minded and who move quickly along will complete their course at such an age as will fit them to benefit by the more advanced work. Every boy will thus have been given a groundwork which will be sufficient

for the ordinary purposes of life, while some will in addition have their mathematical inclinations and desires catered for.

II. *English.*

In the table showing the allocation of times to subjects, English (both branches of it) is given 10 hours out of 20. This proportion has been criticised as being too generous, and, if the other subjects in the curriculum are also to be properly treated, impracticable in an elementary school. Arithmetic, it will be observed, has four hours devoted to it, not an ungenerous proportion of time (far more than would be necessary if a revised and practical syllabus were adopted), and the other subjects have two hours each—as much time, on the whole, as was allocated under the old system. It does not appear, therefore, that the proportion of time allotted to English detracts in any way from the claims of the other subjects; on the other hand, if more time be claimed for Geography or History it could well be taken from Arithmetic and not from English.

English, after all, is the basis of national education, and, in the widest sense, it is the most humanising of all the subjects in the curriculum. It is, besides, the key to all the other subjects, and lends itself most easily to the creation of the habit of study, and to facility in handling books. Apart from educational efficiency, and looked at from the standpoint of social advantage, it is the subject which above all others, when properly handled by a real lover of literature, cultivates taste, and will do most to

counteract the tendencies that make the problem of the right use of leisure by adolescents of such vital importance.

In this connection it will be seen how important the library in this subject is. Fortunately, the writer's school is most happily circumstanced in this respect. Every senior department (that is, the upper part of the elementary school)—and there are about forty of them—in the district is constituted a branch library of the Central Public Library, and obtains supplies of books in the ordinary way. The scheme was started about five years ago when each " branch " was fitted up with 100 volumes, which have been added to at intervals until now the total reaches about 300. These are permanent acquisitions. The staff had a predominant voice in the selection of the books, and their suggestions carried great weight. The books, therefore, bear on the work of the school—perhaps in some cases only remotely—and reflect the taste and outlook of the school as a whole. The scheme works admirably, and is of enormous advantage to those schools where individual work of any kind is practised. The advantage of these libraries in assisting to solve the adolescent problem referred to above is very great. But their aid in working the Dalton Plan is invaluable. Almost every one of the 250 boys who work under Dalton conditions becomes a borrower, and usually he carries his " library " about with him in his satchel. It is therefore always handy and always useful. If the books are properly selected it can easily be seen what a boon they may be in the cultivation of taste and the raising of the tone.

A further point on which a word should be said is the apparent, though not real, separation of the English into two subjects—language and literature. The separation is largely a question of school administration. The large proportion of time devoted to English means, of necessity, that more time must be put into it by the boys themselves, and consequently as much accommodation as possible must be provided in the rooms. Two subject-rooms are therefore set aside to accommodate those boys who at any one time desire to pursue the subject. Further, a specialist in the more formal side of the subject is not always a specialist in literature. These two things were thought of when it was decided to ask boys to do their literature in one room and their formal English work in another. Beyond this, there is no separation, nor can there be. Literature and formal English are merely two aspects of one great subject, and one is the handmaiden of the other. It must, however, be recognised that English may be taught scientifically or artistically. The basis of scientific treatment is formal grammar, not, be it said, that ancient error of the classroom, analysis and parsing, but accurate observation of examples and clear thinking; the basis of artistic treatment is the creative work shown in all kinds of composition and particularly in the making of poetry. But even here the distinction cannot be made too definite because composition may be set in either subject-room, and literature topics are not excluded from the English room. The point of the separation, such as it is (apart from the question of accommodation), is that English and Literature make different appeals. There is also the desire

to get a boy away from the idea that literature necessarily involves a detailed study of formal grammar, and to convince him, if possible, that Literature properly approached is a joy in itself and adds real pleasure to life. Readers who were students twenty-five to thirty years ago will know full well what is meant when they are reminded of the chunks of Shakespeare, or Milton, and even Tennyson they had to analyse and parse, and the annotations that plagued them with every page they read.

The following composition written by a boy of thirteen will show quite conclusively that though English is studied in two different rooms there is not, and cannot be, any cleavage of the subject into parts. The boy was told he could choose any subject he pleased—he selected "A Moonlight Night."

All was calm!
'Twas midnight, the hour of mystery, the hour that held unfathomed secrets.
The moon shone fitfully showing dark weird shapes behind the tall poplars.
Little dancing points of radiant light shone on the poplar leaves as the gentle rustling wind softly blew them to and fro in its playful fancies.
When the moon shone steadily it revealed the long white winding road stretching away until it was lost in deep shadows.
Up above, the gentle wind drove his white-crowned clouds to the west, slowly, as if fearing to break the stillness.

Some of the references here will leap to the mind. Particular care was taken with the boy to ascertain what had influenced him in the formation of his ideas. He had studied both "The Highwayman" (Noyes) and "The Heroes" (Kingsley). Note how these had affected his writing by comparing his work with the following passages:

The moon was a ghostly galleon
Toss'd upon cloudy seas—
. . . . .
The road was a ribbon of moonlight
Over the purple moor. (" The Highwayman.")

The wind overhead hushed his whistling as he shepherded his clouds towards the west. (" The Argonauts.")

Or, take this passage from a boy's essay on " A Blind Man " :

" The moon was sending out its silvery light and flooding the long ribbon of road. ' Tap, tap, tap.' The sound of a blind man's stick could be heard along the otherwise silent road . . ."

The reference in the opening paragraph will be readily recognised. The " Tap, tap, tap " is reminiscent of blind man Pugh in " Treasure Island " which occurs in the Literature course.

Such examples could be multiplied. It is interesting to note in the examples how far the boys have assimilated the ideas caught up in their Literature. They have not merely reproduced them.

A. *Literature*

The aim in Literature is to cultivate appreciation, to improve taste, to deepen feeling, to widen the outlook, and to foster the study of poetic form. A glance at the syllabus in the last chapter will indicate the scope of the work attempted. A study of the assignments will show how the work is presented to the child. In every case a suitable background is supplied by the subject-master. It is not, of course, necessary, nor should it be expected, that every word or phrase of the text or poem dealt with be

understood. That is hardly possible, but a background is supplied which deepens appreciation of the main theme. In the assignments the main aim is to create an atmosphere by an appropriate introduction, so that the scholar can approach the study of the text or poem set on the right lines and with intelligent interest. The pupil is then left to carry out the reading by himself. In poetry, an attempt is made to cultivate a sense of harmony and rhythm. It cannot be too often insisted that it is not necessary that there be a complete understanding of the whole work being studied. It is the emotions and feelings that need to be roused as well as the intellect. What is important is that the work should be allowed to make its own appeal. Every great work of art has its appeal. It is better, therefore, that the work be presented whole. It has an appeal, of course, to the trained adult mind, but it is quite different from the appeal to the child mind. Since art presents the mental aspects of reality it is obviously useless to try to impose upon the child the conception which the trained adult gathers from a book or poem—a baby might as well be expected to eat beefsteak. The old class method was the method of interpretation—under the plan of individual work the boy gets his impression for himself without any interference from outside. When the child has read a poem he is asked to answer certain questions in order to test his impressions. The questions are set, not merely to test information, but to stimulate thought. Where his thought and impressions are erroneous or distorted they are corrected, and where advisable, more advanced conceptions are suggested to him. When the task

set has been exhaustively worked through, the pupil is asked to do some creative work embodying the impressions made during the study. It is perhaps important to add that no "lesson" in the conventional sense is ever given on the subjects studied.

In the course of the assignments a good deal of preliminary work in scansion is done. It has been found quite practicable even with small boys. One of these boys who found his Literature assignments difficult in other respects, said gleefully: "I like scanning poems." It is useful practice and adds enormously to appreciation of the spirit of the poems.

It was stated just now that boys are asked to do some creative work. In many cases it will be readily understood that these attempts were very crude, but in others the results were unexpectedly good, and samples of them are here given :—

SONNET—"AUTUMN"

(F. Wheatley, age 13)

When Autumn comes the trees begin to shed
Their leaves which from the dying branches fall;
Decay and death at last appear on all,
The squirrels start to make their cosy bed,
To keep them from the winter which they dread,
The swallows also make another call
On distant lands where snow does never fall,
To come back once again when winter's dead.
Thus Autumn ends with weather very cold,
But colder still is winter when it comes;
Now ev'rything begins to look so old,
And now the bee he never hums,
The squirrel keeps asleep within the wold
Till Spring's young voice once more unto him comes.

ELEGIAC—"ON A DEAD SOLDIER"

(C. Wakelin, age 13)

He lay there dead a soldier of great renown,
He'd fought for his king and answered his country's call,
And now he lay there dead in some French town,
A man who'd fought to stay his country's fall.

Oh God, why can't men stop this war and strife,
Make peace on earth and stop all signs of war?
For many a man has lost in war his life,
Oh God, make peace on earth for ever more.

We crave, oh God, to start this world anew,
Take all the wicked and the wrong away,
We'd make this earth another heaven for you,
Oh stop this strife for ever and a day.

ELEGIAC—"A DEAD LILY"

(F. Young, age 13)

I wandered o'er the hills and in the field
When I beheld a lily lying dead.
Oh, what a shame that thou to Death should'st yield,
The honey dewdrops cover thy bent head.

The world should keep for ever thy sweet breath
That Nature has presented unto thee,
But unto thee there comes the cold hand of Death
To take thy lovely life—O woe is me!

Oh, what a shame a pretty thing should die
Instead of waking at each call of morn
To welcome bee, and bird, and butterfly,
Oh, what a shame—in what a world we're born!

AN ELEGY ON A DOG RUN OVER BY A MOTOR-BUS

(J. Flinn, age 14)

Go lift him gently from the cruel wheel,
Which crushed from him the life I dearly love,
It does not seem to me that it is real,
And hardly seems there is a God above.

Oh, why could we not keep his precious life,
The thing that is so dear to every living thing
Although it brings to us such endless strife.
Alas! that motor-bus its death did bring.

Oh, how we used to romp about the field,
Or swim and caper in the running brook,
While any other dog to him did yield,
And sometimes from our cat a bone he took.

Both joy and sorrow did I share with him,
But no more will he bark at frightened girls,
Or bite a piece from off a burglar's limb.
Oh, he to me, was worth a thousand pearls.

The following is a parody on Masefield's "Sea-fever." The poem will show the influence of other work done in the Literature room.

"FOOTBALL FEVER"

(F. Young and C. Wakelin, age 13)

All arrayed in football clothes with a football under my arm
I gazed around the football pitch but all was quiet and calm.
I went into the dressing-room to wake the players up;
It was but a practice I admit, but still we wanted the cup.

All arrayed in football clothes we kicked the ball about,
We played the game with all our vim and heard the trainer shout,
"Play up, play up," my bonnie boys, "Play up" and win the game.
If you play like this on Saturday you'll win your way to fame.

All arrayed in football clothes we waited for the "ref."
To blow upon his whistle, lads, whilst people held their breath.
"Pheep" it went, and we are off, the ball I tried to get,
Our centre-forward "nabbed" it and "slammed" it in the net.

The ball slipped hither to and fro beneath our twinkling feet,
And in a rush our outside-right captured the ball so neat.
Away he sped along the field unto the enemy's goal,
And then he shot, the crowd stood up and delightedly shouted "Goal."

Here is another version:

"FOOTBALL FEVER"

(A. Fosler and E. Bracebridge, age 13)

If you're waking call me early, call me early, Ernie dear,
For to-morrow will be the gladdest day of all the glad new year;
West Green are playing Belmont, it will be such ripping sport,
For I'm to hold the fort, Ernie, I'm to hold the fort.

With Smith as centre-forward, and Edwards inside-right,
And Blake and Fossy on the wing, we'll make a gallant fight;
But some will scoff and sneer, Ernie, and some will sniff and snort,
For I'm to hold the fort, Ernie, I'm to hold the fort.

Some say that Eddie Guymer is a better man than I,
But he has not been chosen, so he can sit and sigh;
Belmont will want some beating, for their backs are the right sort.
Still I'm to hold the fort, Ernie, I'm to hold the fort.

Of twisting shots, and twirling shots, I'm sure to get my share,
The clever shots and curling shots will always find me there;
But the school will be victorious by several goals to nought,
For I'm to hold the fort, Ernie, I'm to hold the fort.

These efforts gave rise to others on "Tramping Fever," "Wireless Fever," "Dalton Fever," and so on.

It is often doubted whether the pictures on a classroom wall ever make any appeal. The subject-master in the Literature room placed a few mezzo-tints of great pictures on his wall in an attempt to create an atmosphere. An exercise in one assignment was to write a poem in the metre of "The Daffodils" (Wordsworth). The following poem from a boy of twelve was the result. The boy was asked if he had ever seen a shepherd. His reply was, "No; but I got my ideas from that picture." The picture was Josef Israel's *Watching the Flock.*

THE SHEPHERD

(H. Greenwood, age 12)

I saw a shepherd old and grey
Whose sheep were feeding on the hill.
'Twas in the middle of the day
And some were drinking at the rill.
He held a crook in his right hand,
And round his waist a leather band.
The flowers were very bright and gay
And stretched away towards the sky,
The hedges were all clothed in may.
The river wandered slowly by,
The grass was very fresh and green,
Was ever such a picture seen ?

These are attempts of boys to write in the metre of Alan Cunningham's " Sea-Song " :

THE STORM (A DREAM)

(John Wood and Harry Wood, age 12)

The thunder pealed, the lightning flashed
  Across the angry sky;
The blinding sleet I saw in sleep,
  And then came forth a cry.

I heard the roaring thunder peal,
  The rain beat on the ground;
The noise of thunder now had ceased,
  All but the distant sound.

The wailing of the rushing wind
  Disturbed my troubled sleep;
I fought and fought without avail,
  My throbbing pulses beat.

At last my throbbing pulses ceased,
  And I awoke from dreams;
How merry the chirping of the birds,
  How good the sunny beams.

MY LAUGH

(C. Smeeton, age 13)

O Laughter! pleasant thing it is,
  It fills my heart with joy;
And most of all the people like
  The laughter of a boy.

Now mine's a very hearty laugh,
  Went you the world about
You would not find a laugh like mine
  Till the next month were out.

When doors and windows shut at night,
  And lights are burning low,
Then only would you miss the laugh
  Of silent, sleeping Joe.

The following is a specimen assignment :—

ENGLISH LITERATURE

CONTRACT II. (STD. VI.)—FIRST ASSIGNMENT

First Period

This month we shall study two poems in detail. They will repay our work. You will be surprised what a great deal can be gathered from a short poem of six verses. These are the poems :

"The Destruction of Sennacherib" (Byron).
"Lochinvar" (Scott).

"THE DESTRUCTION OF SENNACHERIB"

"Favourite" Poetry Book IV.

1. Read the account given of the poet's life and work on p. 36.

2. Byron took his story from the Bible. Take a

Bible and turn to 2 Kings, chapter xix., and read verses 35, 36, 37. This is the story on which the poem is based.

NOTE.—Sennacherib was King of the Assyrians 700 years B.C. Find Assyria on the map to the east of Palestine. The Assyrians were a great nation with a great Empire before either the Greeks or Romans flourished. Sennacherib invaded Palestine, wasted the land, and besieged Jerusalem. In the British Museum are some sculptured slabs of stone which were found when making excavations in Assyria. They show Hebrew captives passing before the Assyrian monarch. Upon one slab is the following inscription: "Sennacherib, King of Nations, King of Assyria, seated on an exalted throne, receives the spoils of the City of Lachish." We are told in the Bible of the capture of the Hebrew city of Lachish. Hezekiah was the Jewish King. What actually happened to bring about the disaster to the Assyrians we do not know. It helps us, however, when we remember that after the great English victory over the Spanish Armada Queen Elizabeth had a medal struck which had the following inscription on it: "He (God) blew with His winds and they were scattered." You will find a picture of this medal on p. 112 in "Scenes from Tudor Times" (History Room). You will remember that a great storm had a good deal to do with the destruction of the Armada. It is reasonable to suppose that something of the kind put victory into the hands of Hezekiah, for the Assyrian army was utterly beaten. (This is 1 unit of work.)

Study the following note carefully. It is very necessary that you should carry out what it suggests if you are to make good progress. I want you to carry out the following instructions whenever you read a poem:

1. First read the poem straight through. Do not stop over words which you do not understand. Get a general idea of the poem first.

2. Now go over the poem again. This time do not pass over any word or sentence that you do not understand. This is the way to learn. You will get a good deal of help from your dictionary. If the dictionary does not tell you what you want, ask your master. Write down in your book (you will be given a special note-book for the purpose) every word that is new to you. Above all, *think* about the passages which are not at first clear to you. Try to get at the idea which lies behind the words.

3. When you have been right through the poem in this way, read it again. You will enjoy it a great deal more and you will now read it with greater understanding. Before you read the poem let us notice the metre (-) = an unaccented syllable, (/) = an accented syllable.

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"The Assyrian came down like a wolf on the fold."

Write out the first verses of the poem and mark the accented and unaccented syllables. Mark the beats (accented syllables) first, and fill in the unaccented syllables after. You will find it easy. Beat the time out with your foot. This is called scanning a poem.

Notice that the movement of rhythm is an imitation of the galloping of the horses. Now read the poem straight through. Enter into the movement of the lines. (This is the second unit of work.)

For the third unit work, read the poem through a second and third time, carrying out the suggestions made to you in the note.

There are some points about the language of this poem to which you will be interested to have your attention drawn. "The Assyrian came down like a wolf on the fold." The poet might have used some such words as these to convey exactly the same meaning: "The Assyrian came rushing pell mell to the fight."

But by likening the enemy to a wolf he gives a much more vivid picture of fierceness than by merely stating that they were fierce. I am sure you will agree.

If you think about this you will find that we are continually using this trick to make our talk more vivid. For example:

My feet are like ice.
Jack fought like a lion.
Tom ran like the wind.

Now are my feet like ice? Is Jack anything like a lion? Is Tom anything like the wind? *No!* But wait. There is one resemblance in each case which makes the stated likeness sensible.

The coldness of my feet is like the coldness of ice.
The bravery of Jack is like the bravery of a lion.
The speed of Tom is like the speed of the wind.

Whenever we compare two things which are entirely different and yet have a resemblance, in spite of their difference, we use what is called a *Simile* (pronounced "simily"). The word derives from the Latin *similis* (like). The word similar comes from the same source. Now write down ten sentences of your own each containing a different simile. (This is the fourth day's work.) For the fifth day read carefully through the poem. Pick out every simile and write it down in your book. Quote the whole sentence which contains the simile. You should find five others, in addition to the one already quoted.

Second Period

1st unit. Learn verses 1 and 2 of "The Destruction of Sennacherib."
2nd unit. Learn verses 3 and 4 of "The Destruction of Sennacherib."
3rd unit. Learn verses 5 and 6 of "The Destruction of Sennacherib."

4th day. Revise the whole. Report to your master and ask him to hear you recite it.

5th day. Read through all the notes on the poem again. Be sure you know the history of the story and who the characters mentioned are. Learn what a simile is.

Third Period

"LOCHINVAR" (Sir Walter Scott). Favourite Poetry Book IV.

Read the account of Scott's life and work given on p. 58.

You have probably heard stories about the wild life that the tribes living on the Scottish border used to lead. Perhaps you know the old Ballad of Chevy Chase. We will study it one day when we have copies. Scott made a famous collection of Scottish Border Ballads many of which had never been written down at all, but had lived in the songs of the border folk, remembered from generation to generation. A number of people interested in the subject have recently made a collection of folk songs from countries all over the world much in the same way as Scott made his collection. If you would like to read some interesting stories about the Scottish border, ask your teacher to lend you Scott's "Tales of a Grandfather." Ask him what pages to read.

Before reading the poem, note that it is written in exactly the same metre as the one we have just been studying:

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Read the poem straight through. Now write a few sentences saying why you think the poem was written in this metre. (This is 1 unit of work.) For the second unit of work go through the poem carefully as directed

for the second reading. The following notes will help you.

Line 9. Netherby Hall is by the Esk. Perhaps you can find Netherby Hall on the map.

Line 20. The Solway is noted for the rapidity with which the tide comes in.

Line 41. "Scaur"—a steep bank which is formed by a swiftly running stream (pronounced skar).

The Graemes, Forsters, Fenwicks, etc., are the names of Scottish clans.

For the third unit of work read the poem for the third time. Tap out the time with your foot as you read.

NOTE.—The poem falls naturally into the following sections:

Verses 1 and 2. Introduction. Tells who Lochinvar was and why he rode to Netherby.

Verses 3 to 6. The scene in the Hall.

Verses 7 and 9. The flight.

Every poem that tells a story may be similarly treated. For the fourth and fifth units of work imagine yourself one of the wedding guests. Write an account of what happened in the Hall. Hand in your book when you have completed the work.

Fourth Period

For the first unit of work go over the list of words you have made. Put ten of them each into a sentence. Use a simile, if one occurs to you. For the second unit put into your own words verses 1 and 2 of "Sennacherib." This is called a paraphrase. What you have to do is to decide exactly what the two verses tell you, count how many different ideas are expressed, then put these ideas into your own words. State clearly and simply all that the poem states, but avoid using the language of the poem. On the third day paraphrase the last verse but one

of "Lochinvar." The verse begins "One touch of the hand . . ." For the fourth unit of work refer to the note given you in the third period, 3rd unit of work. Suggest in a similar way into what sections you would divide Byron's poem. State briefly what each section deals with. On the fifth day examine this sentence:

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Then the waves running high dashed the ship on the rocks.

You will see it is written in metre—the metre of the two poems. Write down a few sentences *in the metre* on any subjects that occur to you.

Be sure to hand in your book.

Reference has been made already to the need for vocal practice, and it was shown that this is obtained largely by reading aloud and by dramatisation. These are apart from the conversations that are frequently carried on between masters and pupils. It may also be pointed out here that boys are expected to do a fair amount of memorising. When a boy has learnt his poem or his prose passage he secures a partner who hears him go through the work. This takes place in any odd corner of the room, or outside it, as convenience may dictate. In either case the boy is able to get used to hearing his own voice.

II. *English Language and Composition*

The old grammar lesson of twenty-five or thirty years ago has completely disappeared from most schools. As pointed out in the notes on Arithmetic, it was pressed at that time for its supposed value as a mental exercise, and for the

effect that such mental training would have on other subjects. It was a difficult enough subject to cope with with small children, and younger readers will be astonished to learn that even the little mites in Standards 2 and 3 were expected to be able to pick out nouns and verbs. The whole thing was a colossal waste of time, which led to weariness on the part of the teacher and disgust on the part of the child. No teacher regretted its disappearance when the time came for it to be dropped. It is, however, a matter of serious import whether the reaction against the formal training that detailed analysis was supposed to provide has not really been overdone; whether, in fact, the pendulum has not swung too far in the other direction. There is little doubt that a child should know the principles on which the construction of sentences is based and also the functions of the chief parts of speech, not indeed for the old reasons, but to enable him to make an intelligent use of his language. Without having the science of grammar built up for him word by word and line by line there are yet some things (for example, the agreement of a verb with its subject in number) which a boy should know in order to enable him to write his sentences intelligently. There seems to be no reason why he should not be familiar with some of the terms of grammar, though there is every reason why he should not be burdened with formal definitions. Moreover, it is possible to present such formal grammar as is necessary to a boy's equipment in a pleasant way. These are points that have been carefully borne in mind in drawing up the English assignments, a specimen of which is given below.

The writing of composition is placed with the language lessons because of the close interaction of the two. Such grammar as is dealt with in the assignments has a close bearing on the composition exercises, and so far from being useless, plays a large part in assisting the boy to correct his own errors. Two things are looked for in the written exercises in composition—one is to get the boy to escape the rather dreary openings that are usually found in composition exercises, the other to get him to express himself at length. The second point is invariably secured and most of the work shows strength, freedom, and independence. The first point develops as the boy's vocabulary enlarges. It is here that the work done in the Literature room becomes so valuable. The wider reading that literature provides, and the consequent wider outlook that comes, have a marked effect on the composition as the samples given show. The constant use of the dictionary combined with the wider reading and the continuous practice in writing not only enlarge the boy's vocabulary but enable him to master his spelling. One of the important by-products of this experiment in individual work is the gradual mastery of spelling. The old dreary spelling lesson has been entirely superseded. The more widely the boy reads and the greater his writing practice, the less difficulty he has in spelling. When the increased output of written work, to which reference has already been made, is borne in mind this result is perhaps not surprising.

ENGLISH (LANGUAGE AND COMPOSITION)

CONTRACT III. (STDS. 7 AND EX-7). SIXTH ASSIGNMENT

First Period

1. Study the following sentences:

   (1) The bright and happy boys sang as they worked. "Bright" and "happy" are adjectives, for they describe "boys."

   (2) The boys, of bright and happy appearance, sang as they worked. "Of bright and happy appearance" is an adjective phrase and it describes "boys."

   (3) The boys, who were bright and happy, sang as they worked. "Who were bright and happy" is an adjectival clause and describes "boys."

Notice that the clause is a small sentence that forms part of the large sentence, but it does not make complete sense if it stands by itself.

Supply adjective clauses to the following sentences:

This is the man who . . .
This is the man whom . . .
The houses which . . . were pulled down.
Those shops in the square that . . . were rebuilt.
Turning the corner I collided with Mr. Jones whom . . .
The book that . . . is on the table.
There are the boys who . . .
I saw the man that . . .
We gave the prize to the boy that . . .
The soldiers who . . . stuck to their guns.

The adjective clause must be placed as near as possible to the word it describes.

Notice: (*a*) The horse belonged to Mr. Jones that ran away.
(*b*) The horse that ran away belonged to Mr. Jones.

Sentence (*a*) does not mean the same as sentence (*b*). Say what difference of meaning there is between (*a*) and (*b*).

Correct the following:

She gave the doll to the boy whose head was off.
Wanted, a boy, to clean windows with good references.
The apple cost 3*d*. which he was eating.
The dog was kept in the garden that barked all night.
The girl carried the book under her arm which was wrapped in brown paper.
The dog ran into its kennel which had been snarling at the visitor.
The scholars wrote the poetry in their books that the teacher had written on the blackboard.
I spent the money at the shop which you gave me.
He tied his horse to the door which kicked.
They put the boy in the cellar that ran away.

2. The words who, whom, which, that, and whose are called Relative Pronouns.

In the sentence, "There is the man *whom* I dislike," the word "whom" stands instead of "man" and is therefore a pronoun. "Whom" also shows relation between the first statement, "That is the man" and the second statement "I dislike." "Whom" is therefore called a *relative* pronoun.

Be careful not to use the word "what" in the place of these relative pronouns.

Correct the following:

There is the boy what I want.
He is the man what I spoke of.

The knife what you gave me is broken.
That is the sum what I had wrong.
Where is the dog what killed the rat.

Complete the following sentences :—

It caused great rejoicings among the soldiers who . . .
They presented the sword that . . .
Ramped and roared the lions that . . .
He rests at ease beneath the trees which . . .
Very quickly came the man who . . .
Along the road went the boys whose . . .
I heard the ripple that . . .
He drew forth the sword Excalibur which . . .
" Good speed ! " cried the watchmen who . . .
They praised him to whom . . .

3. Write an advertisement from a newspaper offering a situation to a boy just leaving school

Write to your schoolmaster asking for a testimonial as to your character and work.

Write a letter applying for the situation.

Write a letter from the firm to you making an appointment.

Write your schoolmaster's letter referring to your character and work.

Write the firm's letter appointing you to the post.

1 and 3 count for two units each. 2 counts for one unit.

Second Period

1. An Adverb Clause is a clause that does the work of an adverb, because it enlarges the meaning of the verb in the sentence.

Study the following sentences :

When the referee was ready the game began
They congregated *where the races were to start.*
They ran *so that they would be early.*

I did not go *because I was ill.*
After I had had my tea I went for a walk.
In order that we might save time we went by train.
If Jack goes you may go.

The clauses *in italics* are adverbial clauses. Write down the work done by each clause.

Add adverbial clauses to the following :—

When . . . you may go.
If . . . the boys will return.
They did not come because . . .
Mother was so pleased for . . .
The boy studied hard in order that . . .
The birds came here . . .
They travelled to the seaside so that . . .
That is an interesting book though . . .
The soldiers charged so that . . .
Tom will see you after . . .

1. Select 20 lines of Direct Speech from a book. Write them in your exercise book and then write the passage in the indirect form.

2. Write an essay on the Dalton System and the Class System. You have experienced both in your school. Give the advantages and disadvantages of each. I should write notes first and then write your essay in paragraphs to follow your notes. Do not be afraid to say all that you think.

1 and 2 count for one unit each. 3 counts for three units.

Third Period

1. Nouns or pronouns which stand for males are said to be in the Masculine Gender.

Nouns or pronouns which stand for females are said to be in the Feminine Gender.

Names that stand for things that are neither male nor female are said to be in the Neuter Gender. (" Neuter " is a Latin word meaning " neither.")

Words like child, people, enemies, which may mean either males or females are said to be in the Common Gender.

Write the feminine of :

man, boys, widower, earl, marquis, dukes, rams, horse, drake, bachelor.

Write the masculine of :

daughter, mothers, cow, goose, maidservants, wife, lady, witches, mistress, poetess.

Use the feminine of the following words in sentences :

uncle, king, baron, tigers, lion, sons, author, Jew, peacock, sons-in-law.

Write 10 words in the Common Gender and 10 words in the Neuter Gender. Use each word as the subject of a sentence.

2. Write as you would write them on envelopes for the following :

your father, your mother, your sister, a boy friend, a clergyman, a doctor, a Member of Parliament, your schoolmaster, a soldier, Messrs. Jones & Co., Ltd.

3. You are on a ship and have been in mid-ocean for a week. Write a letter to your mother telling her how you spend your time aboard. Write notes before you start your letter. You will be expected to write two pages.

1 and 3 count for two units each. 2 counts for one unit.

Fourth Period

1. Correct the following sentences :

I have not forgot thee, my dear old friend.
My book was took from the shelf.
Neither of the boys were here.
He is sending a parcel of books for my friend and I.

You did not ought to have done that.
I never said nothing ot the kind.
I bought it off of him.
I have read the three first pages.
Teacher is going to learn me Latin.
The crippled boy walks slow.
You have done that very quick.
I have not got no ink.
Who done that ?
I see Jack in the park last evening.
The hare run across the field.
She has broke the glass.
He says to me, " Have you wrote the letter ? "
I am tired so I shall lay down.
I have laid here since early morning.
The slain were laying on the field of battle.

2. Write an essay on " Events that are going on in England at the present time." Write notes before you write your essay.

3. Correct all errors that you have made in this assignment.

1 counts for one unit. 2 and 3 count for two units each.

III. *Geography*

It has been pointed out that there is little difficulty in getting the right environment and creating the correct atmosphere in the Geography room. Maps, diagrams, apparatus, books are everywhere displayed, not for the sake of display but because they are in constant use. The maps found most convenient are the Comparative Wall Maps of Unstead and Taylor (Philip). These are used chiefly because experience has shown that where boys are asked to consult maps it is better that

the maps they consult should be large and clear. The books used were those named in the list given in the last chapter. These were, in the main, the books used under the old class system. During the progress of the experiment and as a result of the visits of a large number of Colonials to the school, there has been added to the books already named a number of colonial "year-books," and a first-rate supply of pictures. The aim during the year has been to make the reference library as varied as possible. It is not, of course, expected that a boy should read through all the books that find a place in the library—a chapter here and another there are indicated as useful—even a paragraph is used if it is likely to elucidate a point that may be obscure. Perhaps, more important still, a picture or a diagram is indicated as helpful. The maps and diagrams made by the subject-master himself are most likely the most valuable of all. In addition, boys are asked to make charts and diagrams for themselves. A matter of interest is the "observations" (for example, rainfall, temperature, and so on), boys are asked to make during the year. These are made immediately after afternoon assembly (see time-table) and occupy the few minutes during which registration takes place. One of the results of these observations is to check official figures and to make interesting comparisons with former statistics.

A fair amount of practical work is possible outside the subject-room although the absence of a definite workroom restricts this type of work considerably. Only so much practical work is set in the assignments as will fall within the limits

of convenience and also the time set apart for geography.

The outdoor work consists largely of simple surveying by means of a well-made plane-table. The work in this respect is so contrived as to make the demands on boys fairly light. It consists mainly in constructing plans and ascertaining levels. Having made the survey the results are then reduced and drawn to definite scale. Some of the results are very creditable. The indoor classroom work consists, in addition to the scale work just mentioned, of the construction of sections across various areas. Such exercises are dotted about in the assignments. In the earlier assignments exactitude is not looked for—just a rough sketch is all that is expected, but in later assignments an approach to correct scales is required. The reason for this is the differing age of the boys. Diagrams, sketch-maps, and graphs are also called for. The geography has thus a practical side and is not merely bookish, although the book work goes hand in hand with the practical work in the making of a good student.

It is necessary to emphasise the fact that the principle of individual work does not in any way change the school syllabus. A reference was made to this in the last chapter, where it was pointed out that although individual work starts in Standard 5 the work of Standards 2, 3 and 4 precedes it. If this fact is overlooked it would be possible to assume that the syllabus begins at Standard 5. But this is not so. The syllabus for the whole school stands just where it did, and the fact that individual work begins at a certain point makes

no difference to the syllabus of the school. Unless this is remembered, the fact that the geography assignments begin with the countries on the great undersea plateau south of the equator might be open to criticism. That, however, is unnecessary, because the introductory work is done in the lower classes.

It is also important to point out as a result of experience that in elementary schools the geography assignments must be *definite*. The subject is so vast, and the time allotted to it so comparatively short, that it is inadvisable to allow boys a roving commission.

It is remarkable how much "team" work is possible in this subject. One of the interesting points is to observe how frequently boys gather round the large-scale maps talking quietly together of what they discover, and also following the particulars and working out questions of their assignments.

Every care is taken in marking and testing the work done. In this subject almost more than in any other it is necessary to make sure the boys "know that they know" what they have gone over. Questions appear, therefore, very frequently in the body of the assignment and various opportunities are made to correct the work as the boy proceeds. The periodic tests given in this subject showed that the work was well done.

An excellent opportunity offers itself in the geography room to form a good reference library. It is not sufficient to place on the shelves merely those books that conform to the ordinary type. Efforts should be made to include good descriptive

books. The writer remembers the great pleasure he derived years ago from such books as Henry Drummond's "Tropical Africa," and Mungo Park's travels. In addition, therefore, to the books that contain the bare facts, he would place on the shelves every kind of descriptive geography. "With Shackleton to the Antarctic" and Herbertson's Descriptive Geographies are more modern attempts to supply the need.

The following is a typical assignment in geography. It is drawn up for Contract IV., *i.e.* Standard Ex-7.

GEOGRAPHY

Contract IV. Tenth Assignment

First Period

Our Clothing.—Having dealt with our most important articles of food such as wheat, milk, fish, and meat, also coal and iron, the two things that are the basis of our industries, let us turn our attention to our clothes for a little time.

Now clothing is a necessity, as you know, and the amount worn depends almost entirely on the climate. It is made of all sorts of materials. In the cold northern regions animals provide the materials, in the Tropics vegetables provide them chiefly, while in Temperate Zones animal and vegetable products are used.

(*a*) Of vegetable products cotton and flax are the most important.

(*b*) Of animal products wool and silk are the most important.

(*c*) Now cotton and wool are used more than all the others put together.

Copy these lines (*a*), (*b*), (*c*) into your note-books. Then let us look at cotton and wool first. (1 unit.)

Cotton.—Commence your study of this by filling in, on a Mercator map of the world, all the parts where cotton is grown. You can get this from an economic map of the world, the wall sheets, or "Essentials of World Geography," p. 191. (2 units.)

Now to grow best, cotton requires these conditions:

(*a*) A very warm climate.
(*b*) A fair amount of moisture.
(*c*) Saltness in the air or soil (or both).

Copy the above into your note-book. You will see while filling in the map that the three great cotton-growing places in the world are United States America, Egypt, and India, and of these by far the most important, producing many millions of bales a year, is United States America.

(A bale weighs about 500 lbs.)

Look at the figures on p. 122 of "Gateways of Commerce" for the world's annual production of cotton, then you will see the extent to which cotton is grown in the three countries mentioned.

In United States America cotton is of two kinds: "sea-island cotton" and "upland" cotton. "Sea-island" cotton is very famous—the best in the world—it has long fine silky fibres and is grown along the coast, also on islands near the coast. "Upland" cotton is not so good—it has shorter fibres and is grown a little farther inland.

Find the ports of New Orleans, Galveston, and Charleston in the south-east corner of United States America and mark them on the Mercator map you have just filled in. These are the great cotton-exporting ports and the majority of the raw stuff we buy comes from them to Liverpool and Manchester. Egyptian cotton ranks next to United States America in quality.

Then comes Indian cotton. You can see from your map where the cotton parts of Egypt and India lie. Next study those figures carefully—they are worth copying into your note-book.

Our imports of raw cotton in 1911 :

From United States America	about	3,400,000 bales
From Egypt . . .	,,	700,000 ,,
From India . . .	,,	150,000 ,,

(2 units.)

Second Period

You would like to know what a cotton plantation is like and how the raw cotton is grown, who picks and packs it, why these people particularly are employed, when the work is done, what the cotton seeds are used for when separated from the fibre, etc., so read :

" Gateways of Commerce," pp. 121–129 ; or
" In the New World," middle of p. 44 to the middle of p. 46 ; or
" McMillan's Geography Readers," pp. 190–193 ; or
" Regional Geography : The Americas," bottom of p. 73 to the top of p. 74 ; or
" Commercial Geography of the British Isles," p. 64, first two paragraphs on cotton.

Then look at these pictures :

" In the New World," pp. 46, 47.
" Man and his Markets," p. 136.
" McMillan's Geography Readers," p. 191.
" Regional Geography : The Americas," p. 73.
" Self-Help Geography : The Americas," p. 129.
" Self-Help Geography : The World," p. 206.
" New Outlook Geography," p. 198. (2 units.)

Now having got a good idea of cotton in its raw state, let us follow the United States America cotton (of which perhaps a half of their crop comes to Liverpool and Manchester) and look at it at home being turned into

cotton goods. We will see where and how this is carried out. Draw a map of the Lancashire district and put in these towns, etc. :

Manchester, Liverpool, Oldham, Blackburn, Bolton, Bury, Rochdale, Preston, Burnley, Wigan, River Mersey, Manchester Ship Canal.

You can get this from your atlas or wall-map ; or
" British Isles," p. 45 ; or
" Gateways of Commerce," p. 80. (2 units.)
Now you cannot do better than read :
" British Isles," p. 43, second paragraph to p. 46 ; or
" Gateways of Commerce," pp. 74–85 on " A Cotton Handkerchief " ; or
" Commercial Geography of the British Isles," bottom of p. 65 to the middle of p. 67. (1 unit.)

Third Period

Now try these questions :

1. Mention six cotton articles familiar to you.
2. Give some reasons why Lancashire has come to be the seat of our cotton industry.
3. Why do our Lancashire cotton merchants like U.S.A. cotton best ?
4. Why is it an unwise thing for them to depend on U.S.A. for most of their cotton ?
5. For this reason what steps have they taken of late years to be prepared for this ?
6. What happens to the cotton seeds when they have been separated from the fibre ?
7. Why is there the possibility that U.S.A. in the future will be able to supply us with less raw cotton than formerly ?
8. Where do the majority of our exported cotton goods go to ? (5 units.)

Fourth Period

Wool.—We have looked at cotton, the most important vegetable product from which our clothing is made. Now make a study by yourself of wool as a clothing material. To do this, read :

'Gateways of Commerce," pp. 63–73, on "Your Coat"; and

"Gateways of Commerce," pp. 142–156, on "Wool."

Make your own notes on the sheep-rearing parts of the world, noting particularly where they are, why they are there, etc.

Study carefully the figures on p. 142 of "Gateways of Commerce," and while doing so notice the amount of our home-produced wool. (3 units.)

Questions :

1. What do you mean by "warp" and "woof"?
2. Where is the chief woollen manufacturing part of England?
3. From which part of the world do we import most of our raw wool?
4. What have you noticed particularly about the vegetation and climate of the great sheep-rearing parts of the world? (2 units.)

IV. *History*

History has shown itself in practice to be a subject eminently suited to the principle of individual work. Here, perhaps, more than in any other subject, must a boy work for himself. At the same time, the subject is one that lends itself also to "inspirational" teaching of the best kind. It will be seen from the table giving the allocation

of times to subjects that the balance between learning and teaching in this subject is well preserved. That is to say, one hour per week is given to oral work and one hour is devoted to free study. This arrangement meets the claims as to learning and teaching respectively; but the total time devoted to the subject is altogether too brief, when one considers its vastness and absorbing nature.

The books used are mainly those which were used under the old class system. Those found most serviceable are Warner's "Brief Survey" (Blackie), the Piers Plowman series (Philip), and the Self-Help series (Nisbet). Allsopp's "Introduction to Industrial History" (Bell) and "The Change to Modern England" (Nisbet) by the same author, together with Guest's "Social History," are excellent for the last year's course. Owing to the fact that several of the books given in the list in the last chapter were not available when the assignments were drawn up, the assignments of the last year are based mainly on Warner, Guest, Piers Plowman, and Self-Help. In addition to the ordinary books copies of documents are supplied: these are referred to in the list. The subject is treated in such a way that boys will not only do the work set in the ordinary course of the assignments, but will widen their range of reading by including historical fiction. Suitable books for this purpose are indicated at the end of each assignment. Many of these are found in the school library. An attempt will be made as the experiment proceeds to introduce boys to the reading of well-written biography. It is found that boys really like reading history

where it is presented in an appetising form, but they resent the old scrappy text-books which simply churn out dry facts.

Since History is the story of man on the earth the subject properly presented to the child ought to make a very definite appeal, and be a living and not a dead thing. In Geography it is usually held that boys in the upper classes should make an intensive study of their own country—its development, its economic conditions, and so on. In the same way instead of being asked, as used to be the case, to revise British history from the Coming of the Romans to the Death of Queen Victoria (an impossible task even to an adult in the time allotted to the subject in elementary schools) the boys now concentrate on the history of the last one hundred and fifty to two hundred years with special reference to social and industrial aspects. Remembering that the vast majority of the boys will probably receive no further instruction in this, or any other, subject, it seems fitting that something should be done to arouse their interest not only in the story of the distant past but also in the nearer story, in order to stimulate thought about life as it is to-day, and to promote an intelligent interest in citizenship.

As in the Geography, so in the History assignments it has been found advisable to indicate clearly the work to be done. Even a month's work may become too discursive unless the periods and the units' work are clearly indicated.

It was pointed out earlier what was being done to create an atmosphere in the History room. When the frescoes are completed they will constitute

not only a suitable decoration but a time chart of the utmost value.

The following is another specimen assignment :—

HISTORY

Contract IV. Ninth Assignment

First Period

We have often heard it said that the nineteenth century was "the age of steam." You have already seen the marvellous effect the mechanical inventions had upon the industries of the country. The wonderful increase in production necessitated greater speed by which the manufactured goods could be distributed. The roads at this time were in a far better state of repair than formerly, but as all boys are aware water-carriage is one of the cheapest forms of transit, so men set to work to increase the speed on canal, river, and sea. Small beginnings often lead to great achievements, and this is plainly shown in the case of steamships. A careful perusal of the chapter set for reading will convince every boy of the enormous strides that have been made in the construction of steamships during the last hundred years.

Read :

"Steamships" (Guest, pp. 179–181).

You will be given one day for the reading and four days for the questions.

Questions :

1. Give the names of some of the earliest steamships afloat.
2. Compare these early steamships with those of to-day.

3. Name some of the benefits arising from the invention of steamships.
4. What do you understand by the term "ocean greyhound"?

Second Period

While we are on the subject of steamships it is necessary you should know something of those scientific inventions which have made life on the sea safer, and far more comfortable.

We have brilliantly illuminated lighthouses, lightships, as well as numerous floating buoys to warn the sailors of dangerous rocks, instruments in addition to charts and maps to guide their way, and now the wonderful "wireless telegraphy" by means of which they call for assistance when in distress. Thus we no longer look upon the sea as an enemy but as a friend, and though we can never tame the "mighty ocean," people are becoming more and more fearless in braving the dangers of the deep.

Read:

Seamanship in the Nineteenth Century ("Piers Plowman," Book V., pp. 255–262).

The reading will count for two days' work and the questions three days.

Questions:

1. In what respects are steel ships better than wooden ones?
2. Enumerate the various means by which life on the sea is now less dangerous than formerly?
3. Name some of the largest of our modern steamships. Give particulars.

Third Period

We have seen some of the wonderful changes as the result of the great inventions and discoveries of the Industrial Revolution, but perhaps the most important of them all, and the one in which boys always take a special delight, is the subject of this work—the building and progress of railways. During the nineteenth century there was the gradual growth of a network of railways all over England, linking up the centres of industrial activity with the great ports and with the capital. You have doubtless read so much about the rise and advance of locomotive power that it is scarcely necessary to remind you that it had its beginning in the railways, constructed by that notable engineer, George Stephenson, between Stockton and Darlington in the year 1825.

Read :

The Coming of Railways (" Piers Plowman," Book V., pp. 219–227).
Railways (Guest, pp. 182–184).

You will be allowed two days for the reading and three days for the questions.

Questions :

1. Write a short account of George Stephenson and his wonderful invention.
2. Draw a map of England, and mark the first railway engineered by George Stephenson.
3. Name the chief railways in our country to-day.

Fourth Period

Having interested ourselves in the question of locomotion, we must not omit to notice another form of communication in close connection with it, and that is the conveyance of our thoughts and words to those who live at a long distance from us in this and other

countries. Before the coming of the railways, this was not only a long and tedious process but it was also attended by considerable expense. I am sure you will like reading about "Post-horses" and the "Post-boys." Then in 1783 the royal mail coaches were started. But the railways and steamships soon brought about a wonderful improvement. In 1840 the "Penny Post" was established by Mr. Rowland Hill. Compare the cost of "foreign postage" before this time with that of to-day. Notice also the enormous increase in the annual number of letters and parcels passing through the post now, as well as the establishment of other branches of the Postal Service.

Read:

The Post ("Piers Plowman," Book VII., pp. 256–262).
The Post Office and the Penny Post (Guest, pp. 184–186).

The reading will count for two days' work and the questions three days' work.

Questions:

1. Explain by what means letters were conveyed previous to the construction of railways.
2. (*a*) When and by whom was the "Penny Post" established?
   (*b*) How has the Post Office extended its influence in recent years?
3. What changes have been made in the Postal Service during the last ten years?

CHAPTER V

DRAWING AND SCIENCE

ALTHOUGH Nature Study is always a fit companion for Drawing, it is convenient here to state that altogether apart from the value that Nature Study affords to Drawing they are put together and given two hours in the school time-table largely because in an elementary school drawing by itself requires little oral instruction on the class method, whereas, owing to the lack of a science laboratory or even a workshop, and the consequent impracticability of doing individual work on any large scale in the subject, a natural science lesson is mainly oral and of the old "demonstration" kind. Where it is at all possible individual work is set in the way of preparatory and revision reading. That, in the circumstances, is all that can be attempted. The syllabus of nature study is a fairly wide one, and the assignments drawn up on this syllabus combined with drawing will explain themselves.

A. *Drawing*

Drawing, however, is almost entirely an individual thing. It was this subject, as much as anything else, that led to the adoption of individual work as a

principle. Under the old system, when a class was given an exercise (a group of models, for example) and, say, thirty or forty minutes in which to draw it, there was always a fair proportion of the class who could get the exercise done in less than the time allotted. Unless this percentage could be occupied in some other way a great deal of time was wasted. When the experiment began, the type of work done under the old system was continued. It consisted chiefly of drawing from the object in pencil or pastel, and memory and imaginative drawing. A simple course of mechanical and geometrical drawing appears throughout the assignments. These are of great value to the Arithmetic and are well liked by the boys. To be asked actually to measure the area of a table top, or the front elevation of a cupboard or desk, to deal with any measurements involving the use of the rule or measuring-tape, and to reduce the measurements to a definite drawing done to scale is a useful exercise but it is a natural concomitant of Arithmetic. The sketching in pencil or pastel, either from memory or from actual life, presents the subject from quite another point of view, and from the standpoint of beauty, form, and colour is as important as, if not more important than, the mechanical work.

What is the main consideration which should be kept in mind? The following paragraph from the Memorandum on the Teaching of Drawing published by the Scottish Education Department puts the matter in a succint way:

"It is to awaken in the pupils an interest and delight in the world which surrounds them, instilling an appreciation and love of beauty in form, colour, material, and arrangement as well as a regard for utility. It should

cultivate in them habits of accurate observation and the power to represent faithfully and truly in different mediums the results of their observations so that through practice they may gradually gain facility in graphic and plastic representation—the language of hand and eye. Along with these it should develop their inventive and imaginative faculties and create a taste for graceful form, fine colour, sound decoration, and harmonious arrangement in their homes and surroundings."

These considerations properly acted upon bring one very near to those ideas of Power, Imitation, Truth, Beauty, and Relation which Ruskin said were the ideas underlying all sources of pleasure or other good.[1] They imply much more than mere model drawing of the old type. They imply that the subject should be treated as an instrument of self-expression on the part of the child. They rightly suggest that drawing is the language of the hand and eye. The suggestion might be carried a stage further, for drawing rightly conceived is as surely the language of a child as are the words he uses in his composition exercises. It allows the child to express his emotions in another way than merely writing them. Indeed, it is more than likely that children who find it difficult to express themselves in words will find little difficulty in expressing themselves through the medium of the pencil or pastel. In this respect one sees the vital connection of Drawing not only with Arithmetic but also with Literature and even History. It would be nothing short of a disaster if, after dealing with some of the beautiful stories of Literature, a child were restricted to expressing his conceptions in

[1] See Ruskin's "Modern Painters."

writing, to the exclusion of form and colour. Many attempts have been made during the course of the experiment to embody these ideas in practice, and always they have met with success.

Such a view of the purposes of Drawing raises the whole question of Art in schools, and removes the subject entirely out of the realm of the dryasdust things one used to know as drawing in days of yore. The writer remembers the days when children were bored to death in attempts to get their lines straight —a process that had to be accomplished with a lead pencil on rough drawing paper (an impossible task), or to represent "models" in something like true perspective. Both exercises were useful in their way, but they stood in need of being related to something else. It is now being felt that nothing should be allowed to come between the child and what he is trying to represent, and though his efforts, at first, may be crude and even startling, it must not be forgotten that they are his honest attempts to state what he sees and feels. Those who have seen the work of the Viennese children who work with Professor Cizeck will know what children who work freely and voluntarily are capable of.

This view of Drawing admits of wide extension. The experiment carried out so far is in its infancy, but, in addition to the lines of work indicated above, the Dalton Plan should help to solve the problem of how to decorate our schools with educational significance. The following remarks on this point supplied to the writer by Mr. John Littlejohns, R.B.A., will stimulate thought in this direction. The usual decoration of schools to-day, he says, consists of odds and ends of pictures—a jumble of unrelated excrescences

intended (1) to provide illustrations to subjects; (2) to create an æsthetic atmosphere. Any approach to this complete fulfilment of (1) is impossible except in Dalton schools, because each classroom would need sufficient pictures for a whole school—duplication equal to the number of classrooms, or, in any case, the selection depends on unsatisfactory funds and the imperfect taste of teachers.

The attempt to create an æsthetic atmosphere is doubly disastrous, first, because it generally results in the pictorial expression of the teacher's sentiments, or what the teacher has been told to be beautiful; either a "pretty picture" or an "acknowledged masterpiece." At best—when the taste displayed is catholic and unquestionable—it is the taste of the cultured adult dumped upon the child, an imposed and therefore artificial culture. The very cleverness of the pictures, the obvious evidences of technical skill, place them outside the scope of the child's own operations and tend to discourage. Second, the child does not share in the choice. (It would be an interesting and valuable experiment to allow children to make a free choice.)

The experiment in process at West Green School is the first attempt in a Dalton school to grapple with fundamental needs. A gifted young artist—Mr. E. G. Fraser—consults with teachers as to suitable decoration for a certain room. The subject and scheme decided upon (in this case, a procession of figures representing costumes from Ancient Egyptians to the present day), the artist works a sketch and consults with the art-master and selected boys. The boys as part of their art work enlarge the sketch, transfer the enlargement to the walls,

and paint as much as they are able to do under the guidance of the art-master. The artist works with the boys only when necessary, and finally completes the composition. Thus the idea, design, and colour scheme are the artist's: the bulk of the actual execution is the work of the schoolboys.

It is hoped, however, that this example will stimulate boys to originate ideas, search for material, and eventually to do with very little, if any, outside assistance. But obviously the amount of imported effort must be governed by the nature of the school, the training of the art teachers, the age and capacity of the children, and the sympathy and encouragement of the responsible authority. Lack of extraordinary skill, however, need not be a bar to successful decoration. Indeed, an obvious effect of professionism both in conception and execution would savour of the disadvantages of the present method. Rather the aim should be to promote the outpouring of healthy, care-free, unconscious joy of self-expression. To this end the technical treatment should be as neat as possible and within the reach of the better pupil: the subject, or parts of the subject, might well form part of school study—perhaps the basis of certain assignments—and the imported specialist (an unfortunate necessity in most schools, particularly at the beginning) should know as much about the native responses of the child mind as of the principles of mural decoration.

The originator of an idea and a confessed enthusiast is prone to overestimate possibilities, but there can be little doubt of the immediate and lasting influence of this attitude towards school decoration.

Apart from superficial and striking effects there would be a continual and unconscious permeation. The gradual growth of the conception, the collective nature of the venture, the sense of fitness of subject and treatment as to place and purpose, will create feelings of profound significance. Art will take its place as something fundamental—a necessary part of life and not an accidental accessory—a co-operative product, a social value to be enjoyed by the many and not confined by an apparently captious Providence to the favoured few mysteriously or unfairly "born with a gift."

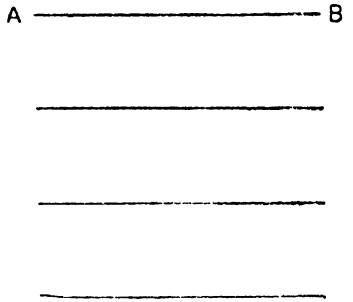
Here is a specimen assignment which shows the present treatment of the subject in the writer's school :—

DRAWING

Contract I. First Assignment

First Period

1. Parallel lines are the same distance apart all their length. Here are four horizontal lines drawn parallel to each other. Measure their length and their distance apart. Draw them three times as long and twice the distance apart. You must use a set-square for this purpose and proceed thus : Draw the top line first, then below fit one of the short sides of your set-square with right angle at the extreme end. This will give you a straight line downwards from which to commence the other lines. You must not guess at anything in these drawings :—

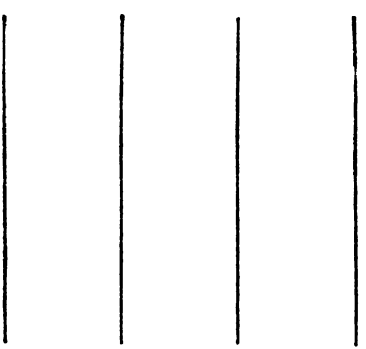


2. Draw one of the objects put out in the room.

Second Period

1. Here are four vertical lines drawn parallel to each other. Refer back to last week's work and see what name was given to the lines you drew then.

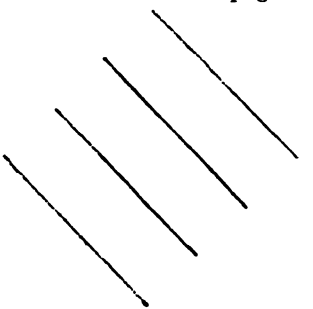
Measure the lines and their distance apart, then draw them twice as long and twice their distance apart.



2. Draw one of the objects placed in your section.

Third Period

1. Here are four oblique lines drawn parallel to each other. Measure them carefully in "eighths." Then draw them three times as long. How far are they apart? Make them twice the distance. Draw the uppermost one, then use your set-square to get the others in a line which runs at right angles to the first one. Begin well on the left of the page.

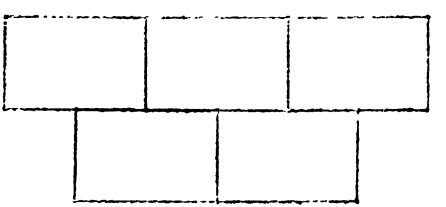


2. Choose one of the objects in your group for a freehand exercise.

Fourth Period

1. Copy these lines the exact size. You should not have to use a rubber at all if you measure correctly.

Draw the long lines first, and divide them by means of small dots. Use your set-square for the vertical lines.



2. For a freehand exercise give a memory drawing of something at home.

B. *Science*

If education is a means of enabling one to understand and enjoy life, then Science or Nature-study in some form must find a place in the curriculum of elementary schools, for it is a means of widening the outlook of the child, deepening interest in the world about him, and affording abundant opportunities for observation. It also supplies a wealth of ordered knowledge and information. Useful as these are, there is the added advantage that the subject is an aid to clear thinking.

It is almost impossible to arrange a syllabus of Nature study that would apply equally to all schools alike. But a glance over the syllabus given in the last chapter, bearing in mind that the writer's school has no handicraft room or science laboratory (the condition of the majority of schools), will reveal an attempt to deal with ordinary everyday things of which ordinary children might be expected to know something, or at least to have heard about them, before they leave school. Many of the matters treated have been found of tremendous use in other subjects, particularly in Geography. If here and there scientific terms are used it is because those terms best indicate the thing dealt with and are the terms commonly used. The treatment is largely through demonstration lessons, but a fair amount of reading matter and explanation are offered to the child in the assignments. The following specimen will illustrate how the subject is dealt with :—

NATURE STUDY AND SCIENCE

CONTRACT I. FIRST ASSIGNMENT

First Period

What a great many things there are in the world! It would be impossible to count them, and it would seem impossible to be able to put them in three classes. Yet you will see that it is possible, and that the classes are natural ones, which we call the "Three Natural Kingdoms."

We will commence with what must be the oldest of the three—the Mineral Kingdom. This includes all the various substances of which the crust of the earth consists, as stone, clay, sand, ores, metals, granite, and all articles made from such things. The members of this kingdom have no life, they have no power of movement and no growth.

I call this the oldest because it existed first. The Vegetable Kingdom consists of all kinds of plant-life from the tallest and biggest of trees to the lowliest of mosses. The members of this kingdom live, breathe, grow, and reproduce their kind, but, with few exceptions, they do not move from their places, being fixed by means of their roots, which provide firm anchorage while through them the plant draws from the ground the food on which it thrives. Now you can see why this kingdom cannot be so old as the mineral kingdom.

The Animal Kingdom is the highest and most wonderful. The members of this kingdom have life in various forms and include mammals, birds, fishes, amphibians, reptiles, and insects. The word "mammal" may be new to you; it refers to animals which suckle their young and includes a variety of creatures from an elephant to a mouse. Amphibians are animals which live partly in the water and partly on land, as the frog. Reptiles are crawlers. Members of this kingdom are able to move from place to place and go in search of

food. Some live on land, some in the water, some in both, and some in the air. They run, they swim, they fly, they crawl. This kingdom is the youngest of the three. With a little thought you can see why.

Write down these names in three columns under the heads, Mineral, Vegetable, Animal:

horse, brick, potato, orange, mouse, penny, butterfly, watch, celery, cocoanut, sparrow, herring, scissors, stone, banana.

Second Period

In the very, very early days of the earth the heat was so intense that no life of any sort could have existed on it, and as cooling commenced the outside naturally cooled first, forming a solid crust containing a hot molten interior which has not cooled yet. Now you see why the mineral kingdom is the oldest, as you read in your last lesson.

Long, long ages passed and the covering became wrinkled and cracked. The vapour surrounding the earth condensed and filled the hollows forming the great bodies of water which we call the oceans.

The rocks uncovered by water were very hard, and as they were formed by the agency of heat or fire we call them Igneous rocks. You have all seen some of these original rocks, namely granite, and you have noticed the shining crystals in it. There was nothing but hard barren rock. What a dreary sight it would have been if there had been anyone to see it! No fish moved in the waters, no grass or trees grew to make the earth beautiful, and there was no animal-life. But changes began to take place; forces were at work wearing down and breaking up these hard rocks. Let us see what these forces were and whether they are still at work.

When water becomes ice it expands. It sinks into the tiniest hollows in the rocks, expands on freezing and pushes apart the particles, which are separated and fall away.

Rivers wash away beds for themselves, carrying away particles of rock and depositing them at the bottom of a sea or lake. Glaciers grind down the rocks over which they slide and carry dust, pebbles, and boulders down the mountain slopes.

Tides and waves are wearing down rocks on the coasts. What has become of all the material washed away by the agents mentioned? It must be somewhere, and there must be a great deal of it, for the wearing has been going on for millions of years. It has been used to form rocks of another kind which we call Sedimentary. They are generally softer than Igneous rocks, and have been deposited by the action of water at the bottom of which they have settled. If they were formed at the bottom of the sea, how is it that they are now forming rocks and cliffs several hundreds of feet above the sea? Interior disturbances of the earth have thrown up parts of the crust while other parts have sunk.

There are three divisions in these Sedimentary rocks denoting the order in which they have been deposited, viz. Primary, Secondary, and Tertiary, meaning first, second, and third. These layers are never found out of this order, that is Secondary are never found below Primary, nor Tertiary below Secondary.

Third Period

Let us see what we can learn about volcanoes. The Romans had a god named Vulcanus. He was the god of fire, and was supposed to have his forges in the interior of Mount Etna, which is a volcano in Sicily. If the people heard rumblings and explosions coming from the mountain or saw a light coming from the top they imagined Vulcanus to be at work at his anvil and forge, like a blacksmith.

A volcano is generally cone-shaped, with a cup-like hollow at the top which is called the crater. From the crater a pipe leads down into the interior of the mountain.

You can draw a map of the world showing the positions of the volcanic regions. You may be surprised to find that there are more than 300 volcanoes, and you will notice that they are situated on islands and along the edges of continents not far from the sea. You will see that the Pacific Ocean is ringed by them, and that there is a more imperfect ring round the Atlantic. You see that they follow lines of elevated land composed of Igneous rock. The cracks in these rocks give the vent-holes for the escape of lava, dust, ashes, stones, mud, steam, and water.

There is one thing you must be warned against, that is, thinking that fire comes out of the volcano.

Stromboli is called the lighthouse of the Mediterranean because its light can be seen a long way off at night. This is not because it emits fire, but what is seen is the reflection of the light from the white-hot lava in the pipe on the column of steam which arises.

The height of a volcano may increase owing to the constant piling up of material round the edge of the crater; or it may decrease owing to the top being blown off by a mighty explosion.

Sometimes a crater is closed up and a number of new ones are opened round about it. When a volcano remains quiet for a long time without any signs of an eruption we say it is dormant, which means asleep. Then there are volcanoes which we call extinct. Their forms remain, but history cannot tell us of a time when they were active, it is so long since they went out.

We learn then that in the interior of the earth it is intensely hot, hot enough to melt rock, hot enough with the pressure of the crust to raise water far above boiling-point.

Fourth Period

Where are metals found? is the question we are asking ourselves to-day. In a previous lesson we learned that the original rocks of the earth were igneous,

and that the material worn away from them was again formed into a different kind of rock which we called sedimentary. These new rocks were piled on top of the old rocks except where the latter were too high, or where they broke through owing to earth disturbances.

Now it would be an interesting question to ask, which of the two kinds of rock is the original home of the metals? There seems to be no doubt that the older or igneous rocks are. A few of the metals are found in the pure state, but generally they are found in ores. These ores contain other things besides the metals. For example, there may be oxygen forming oxides, or there may be sulphur forming sulphides, as zinc sulphide, or carbonic acid forming carbonates, as calcium carbonate.

The metals have to be separated from these, and very often the ores contain mixtures of metals, thus silver is found with lead, and iron with copper. These have to be separated from each other after they have been obtained from the ore.

There is very often nothing in a piece of ore to indicate to any except a well-trained eye that there is a metal present. You would walk over ores containing precious metals without noticing them, thinking they were just ordinary stones.

If igneous rocks are the original homes of the minerals we should think that the place to look for minerals would be where igneous rocks are, or somewhere near, and that is true. But is it of no use to look for metals in sedimentary rocks? you may ask. Yes; and this is how they got there.

We have mentioned earth disturbances—earthquakes, risings, sinkings—and the intense heat that we know exists in the interior of the earth, the boiling water and the melted rock. Now you can imagine cracks from below opening in the sedimentary rocks, and some of the hot solution containing metals being forced up into them. Here they have cooled and become solid. Such cracks filled with metallic ores are called pipes or veins.

CONCLUSION

It is much too early yet to say with any sort of assurance whether the plan of individual work—in particular, that form of it known as the Dalton Plan—will or will not produce educational and social results of the best and most lasting kind. The varied and definite advantages—and difficulties—have been detailed in these pages; but without much longer experience, it would be unwise to pronounce a confident judgment on them. In the first place, no boy has yet finished his four years' course, and until some have done so, it is clearly impossible to speak of results with any certainty; in the second place, there are not sufficient data available upon which to work to ascertain what is the opinion of others besides teachers—for example, parents, employers, and so on—as to the effect of this type of work from their point of view compared with the effect of the old system. Only time can settle these things.[1]

But there are certain outstanding features both as to curriculum and organisation that make the plan of individual work an eminently desirable thing. The foremost is the freeing of the child, a freedom expressed, not in licence, but in self-dis-

[1] It is not suggested here that the views of parents and employers should constitute the last word as to the success or otherwise of an educational experiment, but the value of the results of such an experiment as this, either to the home or to business, has to be considered. What the writer is mainly concerned with is the place of individual work in a really national scheme of education where education is subjective rather than objective.

cipline, and an establishment of relations of mutual confidence between the teacher and the child, relations which enable the child more clearly to express his own individuality, and the teacher to realise the tremendous potentialities of the child. Too often in the past these potentialities have been underestimated, but the plan of individual work enables the child to reveal his powers in unthought-of ways. On the educational side, the outstanding feature is the " more and better " work which comes from all—even the dullards.

These features are fundamental and permanent, and, whatever may be the case with other issues raised by methods of individual work, these, by themselves, weight the scales very heavily in favour of the Dalton Plan. The main points on which it is unwise at present to dogmatise are those of " possible lack of vocal expression," fatigue and strain (on teacher or child), and so on. These, again, are issues that only time can settle.

The adoption of the Dalton Plan in the writer's school was not a " stunt." It arose indirectly out of his interest in the schooling of his own two small boys. What made the transition to the plan fairly easy was the fact that for nearly five years previously " specialisation " had been the basis of the organisation of the school.

There were, however, one or two trends of thought that had a place in the writer's mind for many years and led him in this direction. The statement of these may not be regarded as an unfitting conclusion to these pages. It will, at least, show the adoption of the Dalton Plan to be a natural development of the writer's conception of his work.

In the first place, the writer has always been impressed by the appalling fact that the great majority of the children attending elementary schools leave at the age of fourteen years, and further, that the vast majority of these receive no further instruction of any kind. It is admitted, under the present system, that more than two million children—some of whom must have great gifts—are deliberately shut out from participation in the national system after fourteen years of age. The waste of educational material is greater even than the financial waste against which some moderns are girding. And what makes it more deplorable, these children leave school, as Mr. Reginald Bray puts it in the "Town Child," at an age which is a critical period in the development of any youthful citizen.[1] "Profound changes," he says, "physical and moral, are transforming the nature of the child. It is the age during which possibilities for good or for evil are realised. On all sides there is danger: there is the danger that comes from the sudden uprush of freedom which follows the cessation of school discipline and the beginnings of the wage earner's independence of home, there is the danger that lies in a choice of employment for which the worker is physically unsuited, and above all, there is the danger that lies in the passage from puberty to manhood. It is a time of final decisions. . . ." No one will dispute this. The desire to anticipate these dangers by showing the right use of freedom (and of leisure) made the Dalton Plan very attractive indeed.

[1] See "The Town Child," by R. A. Bray (Fisher Unwin).

In the second place, the writer has observed, as hundreds of others must have done during the last decade or so, the widening scope of the school and the consequent change in the function of the teacher. The widening of the scope of education and of the school is sufficiently and clearly hinted at in the opening paragraph of the Code to which reference was made in the first chapter. Elementary education is not now regarded merely as an insistence on the three R's as ends in themselves, but as means to ends far greater and far more desirable. The main work in connection with the three R's is now done in the lower classes of the schools, and no scheme of individual work can be of the slightest use where children cannot read intelligently. On the other hand, to keep older children ground down to the three R's, as the term used to be understood, is a cruel and brutal thing. " Education must provide not only the bare necessaries of knowledge for all children, but also, by simple religious teaching given within and without the school, and by education in character as well as by some physical training and elementary discipline of hand and eye, fit them to become loyal, capable, and intelligent citizens. What particular form the higher education takes must depend on individual aptitudes, but for every one it must include some knowledge of the " humanities " (History, Literature, and Philosophy) and of the main ideas and principles of Natural Science, together with some training in the understanding of the great achievements of Art " (" Social Aspects of Education," Pitman, pp. 9 and 10).

In addition to culture in its broad Arnoldian sense of a " knowledge of the best that has been

thought and said in the world," there is the widening of the scope of the school in the direction of supplying every need of nature from meals to thrift and from sport to personal service.

It will be seen, therefore, that if this view of the function of a school be taken—and it is a view that is gaining wide acceptance—the Dalton Plan, which provides for social as well as educational efficiency, must find a place. It will be seen also that the function of the teacher must change with the ever-widening scope and development of the school. Indeed, in a very real sense the teacher is no longer the mere instructor, but the educator and even the pastor. The teacher's sympathies become enlarged. The development of sociology, psychology (old and new), and even civics, strengthens the belief that children learn more through indirect, than through direct, instruction, and that arrangements in a school which create social feeling unconsciously exercise the most profound and lasting influence on character.

The importance of the school, therefore, not as an austere academy but as a social unit, is very great. And no plan of school organisation contributes more to social unity than the Dalton Plan of individual work. It changes the whole spirit and atmosphere of the school and makes education a living process. The school is no longer a barracks but a hive of industry. The cultivation of character and the cultivation of culture go on at the same time. It cannot be emphasised too clearly, however, that educational efficiency is in no way sacrificed to social efficiency; on the contrary, social efficiency implies educational efficiency. Both are obtained

in any well-organised plan of individual work, and both have a distinct relation to life.

The widening of the scope of the school will not only show the school as a social unit but will present it as a centre of social activity, and in this the Dalton Plan has also its place. It may not be so patent in the one case as the other, but one or two further considerations will make it clear. It must always be remembered that the school is civic in its origin. It is not surprising, therefore, that with the growth of the public conscience in the matter of "services," many of these have become attached to the school. It would be unnatural if it were otherwise. In this way have grown up in and around the schools sports, school journeys, camps, aids to thrift, medical care, free meals, clubs, play centres, juvenile employment bureaux, after-care committees, parents' meetings, and so on. No enlightened teacher opposes them; enlightened citizens approve them. The worst that a responsible teacher can say of them is that they are embarrassing, and his desire is not to see them removed from their natural sphere, but to see them so organised that they do not disable or disinherit him altogether from his work as a teacher. The elementary school can help the cause of social solidarity which is the solidarity of human interests. What has been said both about the organisation of the school under the Dalton Plan, and about the changing and widening function of the teacher and the school, will make clear how the Dalton Plan aids in this work and thus claims a place in educational reconstruction.

After all, the hope of the nation lies in an enlightened people with a reverence for education

itself. And the education to be of value must be broad as well as deep—it must appeal to all the needs—physical, mental, and spiritual—of the individual. The school should aim at creating "happy memories"; it should prepare for life and citizenship; it should be life itself. The growing faith of educators is that the child should have this life and have it more abundantly. It is because the Dalton Plan in school organisation tends to promote this life through self-instruction, self-thinking, and self-discipline, together with co-operation between child and child, and child and teacher—that spirit by which alone a nation lives—that it is recommended as a fruitful ground for experiment by others.

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